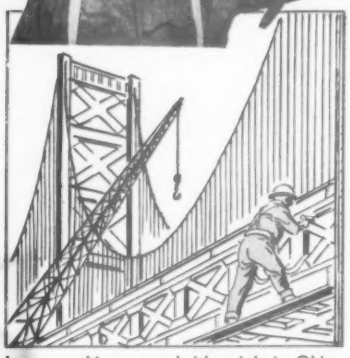
National Safety News

"Here's Two Reasons Why I'm Still Alive and Kicking"

Says Frank Kramer, Bridgeman, U.S. Steel's American Bridge Company



I was working on a bridge job in Ohio, when this happened. Except for two reasons, that would have been my last job.

A drift pin dropped from 60 feet above picked my head for a target. It was coming like a bullet. Somebody yelled, but there was no time to duck.

That pin struck my Skullgard. It would have bashed my skull . . . but Skullgards are tougher. The pin bounced off.

Bad luck wasn't through with me . . . that pin struck an I-beam, bounced back, and hit me full in the face. It felt something like getting kicked by a horse.

It knocked me right off the bridge beam. The undertaker was reaching for me again, but I fooled him a second time. Had my safety belt on.

The boys grabbed the safety line and hauled me up. I had a bloody nose . . . that's all. Skullgards and Safety Belts have got my vote for man's best friend ever since.

This true story—from the many in the files of American Bridge—explains why the company invests thousands of dollars annually in safety hats and belts alone. The equipment is bought for *protection*—but it pays extra dividends in production, through the added confidence that it gives to every worker.

American Bridge management says, "We are sold on safety hats . . . and so are our workmen. There is no law that compels them to wear Skullgards, but most men would no more think of going on the job without helmets than of working in their bare feet. Once a man has seen how a helmet can save a life or prevent serious injury, he doesn't need urging to wear one."

M.S.A. Skullgards are safety-engineered for maximum protection . . . carefully designed for maximum wearing comfort. Choice of several types of linings, that can be easily removed, replaced, and adjusted for any head size. For complete details, ask for Bulletin DK-15.

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The NEW WILLSON "800" Series
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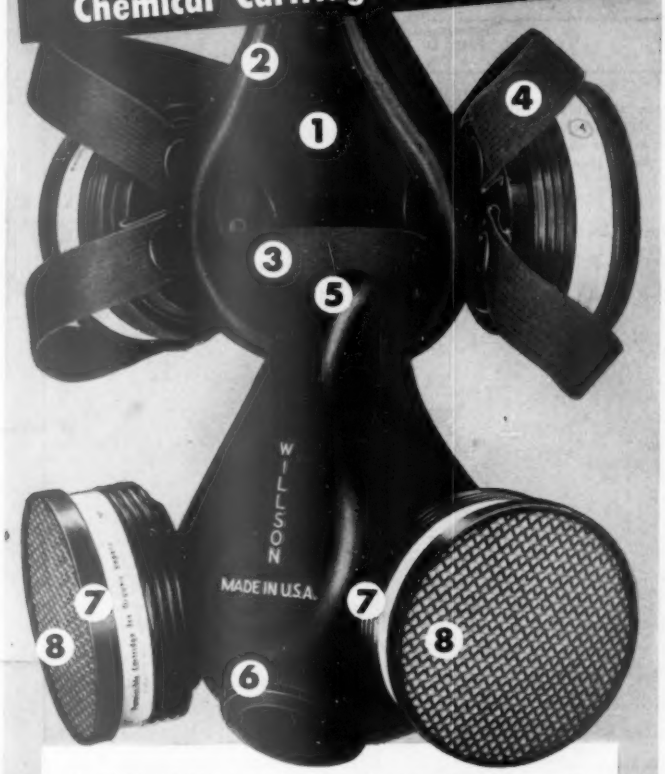

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NATIONAL SAFETY NEWS

JUNE 1951 **Vol. 63, No. 6**

THE COVER: The blacksmith in industry doesn't shoe horses but there are plenty of jobs requiring his skill in metal working. The old-time blacksmith didn't work in such a bright shop and he never wore eye protection. (Photo, courtesy "Better Living," E. I. du Pont de Nemours & Co.)

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28,800 copies of this issue were printed

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Come rain or shine, radically new SUPER SAFE CETOX gives genuine security underfoot on dazzling, beautiful floors.

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For tools subjected to impact and/or torque — specify tools of Ampco Metal.

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For jobs around acetylene and certain other gases — specify Ampco Monel* tools.

*Trademark International Nickel Co.

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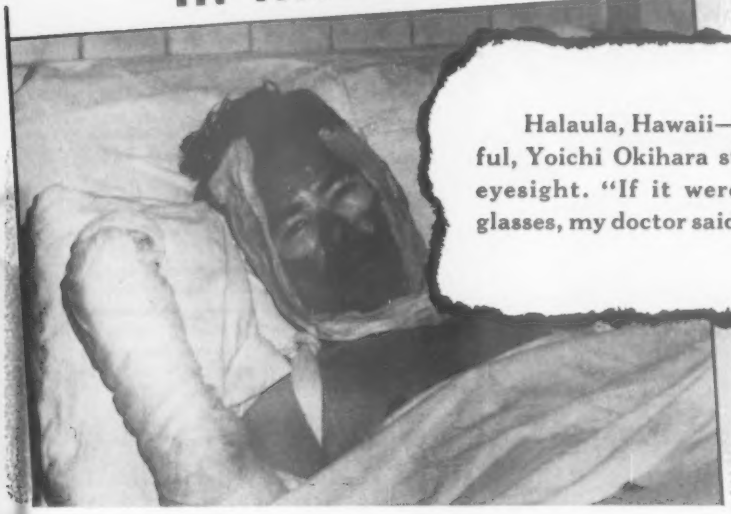
SAFETY GLASSES AVERT BLINDNESS IN FACTORY BLAST



Halaula, Hawaii—Suffering but grateful, Yoichi Okihara still has his precious eyesight. "If it weren't for the safety glasses, my doctor said I'd be blind today."

1 SELL EYE SAFETY TO EMPLOYEES
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Approved by the Underwriters Laboratories.

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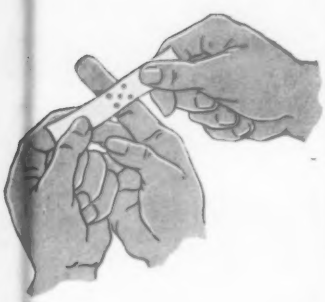

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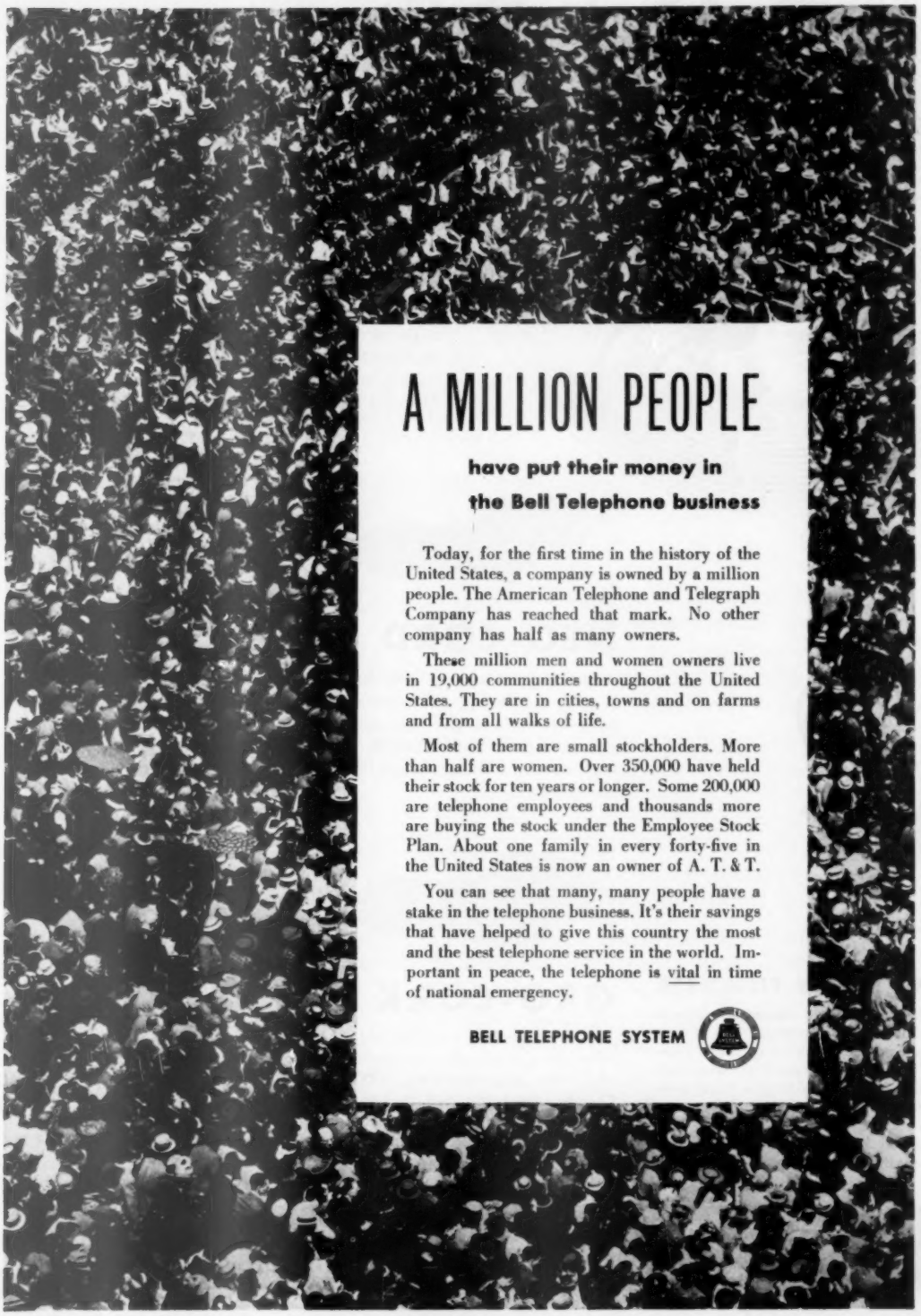

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A fine cord and neoprene sole that is resistant to oil, grease, gasoline, acids, caustics and heat. Cord construction gives NEO-CORDS a high non-slip efficiency for the life of the sole.

NEO-CORK

An outstanding cork and neoprene sole that gives long non-slip wear. NEO-CORKS resist gasoline, oil, grease, acids and caustics. They won't pick up metal chips, are waterproof and cushion the feet.

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GRO-CORK

The finest cork and rubber sole. They are lightweight, waterproof and very slip-resistant. GRO-CORK soles won't pick up metal chips, they protect the feet from heat or cold, and are soft to walk on.

GRO-CORD

This remarkable sole, with its cord-on-end construction, affords non-slip footing and extra long wear. GRO-CORD soles should not be worn where grease, oil or gasoline saturates the footing.

GRO-CORD RUBBER CO., Lima, Ohio

Canadian Plant **GRO-CORD RUBBER CO. of CANADA LTD.**, Tillsonburg, Ontario

Points the finger at hidden fires . . .

Slow-burning fires may smolder for hours before they generate enough heat to set off fire detecting devices. But they can be spotted within a few seconds by a *Kidde* smoke detecting system.

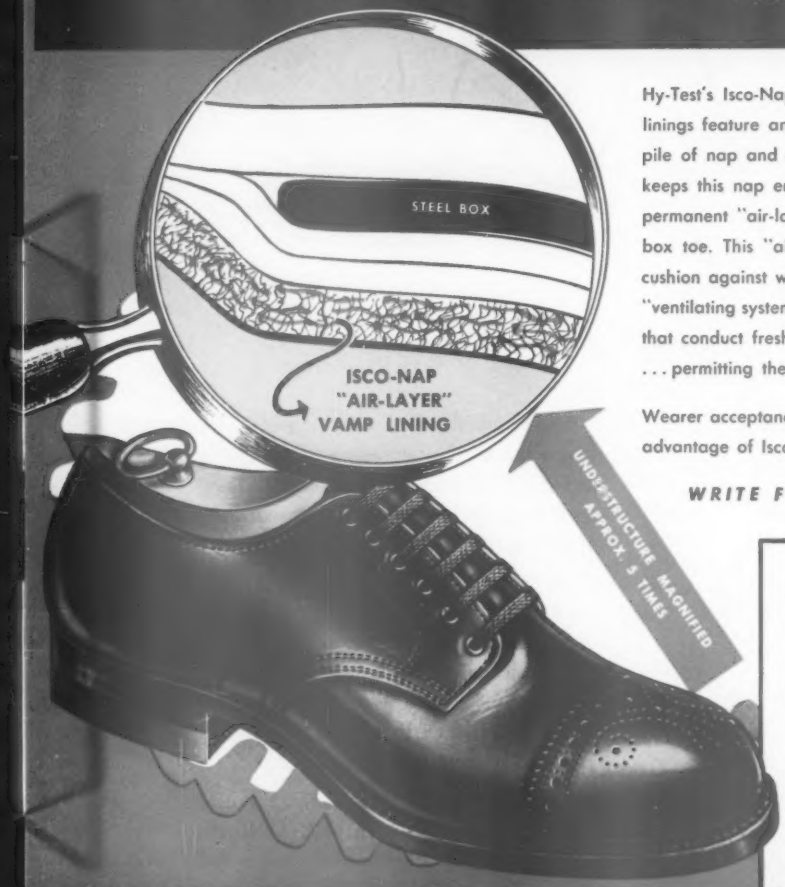
A single *Kidde* Multi-line Smoke Detector System can protect one room or many rooms in the same building. A central electronic control board tells the exact location of the fire—and transmits a warning to your fire control headquarters or the local fire department.

You can combine this efficient *Kidde* Smoke Detector System with a *Kidde* CO_2 Fire Extinguishing System. See your nearest Kidde representative or write for full information.

Kidde

Walter Kidde & Company, Inc., 645 Main St., Belleville 9, N. J.
Walter Kidde & Company of Canada, Limited, Montreal, P. Q.

HY-TEST'S
ISCO-NAP VAMP LINING
CUSHIONS against wear
AIR-CONDITIONS the foot



Hy-Test's Isco-Nap vamp linings feature an especially high pile of nap and special processing that keeps this nap erect, providing a permanent "air-layer" between foot and steel box toe. This "air-layer" acts as a cushion against wear and provides a "ventilating system"... a series of air channels that conduct fresh air in, stale air out ... permitting the foot to breathe.

Wearer acceptance has proved the two-way advantage of Isco-Nap vamp linings.

WRITE FOR CATALOG

Other Advantages of ISCO-Nap Vamp Lining

- **Does not wrinkle, come loose or bunch up to cause blisters or rub skin raw.**
- **Keeps its texture and remains moisture absorbent.**
- **Moisture is dissipated thereby retarding rot or mildew.**

... Insure Workers' Feet in Sure Protection

with

HY-TEST ANCHOR FLANGE* SAFETY SHOES

*TRADEMARK REG. U. S. PAT. OFF.

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HY-TEST SAFETY SHOES

NATIONAL SAFETY NEWS

JUNE, 1951

I Want a Debate!

THIS EDITORIAL is written as the great MacArthur-Marshall debate reaches its height. I am deeply envious of the concentrated interest this debate has aroused.

I wish I could provoke such a debate. I would be delighted to hear charge and counter-charge hurled from group to group as we attempted to place the blame for a national catastrophe that slaughters almost a million Americans every decade.

We accept this slaughter—the slaughter of accidents—too quietly, too unemotionally. We are too blase to be aroused by this betrayal of our country. We are too tolerant to face the question of placing blame.

I wish we could have an audience of millions listen as, say, a spokesman of the motoring public hurled defiance at traffic enforcement officials—and as the enforcement spokesmen countered with the argument that public apathy hamstrings the best enforcement efforts.

I wish that an infuriated body of organized women would demand of public officials better accident prevention work in homes—and that indignant public officials would demand of the women's clubs a more vigorous support of home safety efforts.

I don't think such a debate would necessarily produce any great additional light on the techniques of accident prevention.

But I believe that the emotional energy generated by such a debate would arouse all groups in this country to a greater sense of the magnitude of the problem, the intolerable cost, the dragging horror that is our price for national indifference.

This is nothing necessary about accidents. There is nothing mysterious in the techniques of combatting them. What is lacking is emotion—the sense of anger and fury and the iron will to do something—something big, something *now*—to end accidents as a major blight.

That anger and fury, that iron will, is now the property of a few enlightened people. These emotions must be shared by the great mass of patriotic, neighborly Americans, if more substantial gains in safety are to be made.

Ned H. Dearborn

There's Safety in Numbers

NORMAN DAMON *is Vice-President of the Automotive Safety Foundation. This article was adapted from a talk given before the Philadelphia Chapter of the American Society of Safety Engineers, April 2, 1951.*

"THERE Is Safety in Numbers" carries a double idea. It implies that the large numbers engaged in professional or voluntary safety work can, by joining their efforts, develop a more favorable "Safety Climate" in which such special phase of safety can better develop. Even more importantly, it implies the need to enlist the entire population in a crusade to save life and limb. It is a problem we can do something about as individuals, as organizations, as communities.

We have specialized techniques for fostering safety in the factory, in the home, on the farm and on the highway, but the primary objective in all cases is the same—to save life and limb. The human factors that make people vulnerable to one type of accident make them equally vulnerable to others. Wherever the accidents occur, the end products are always identical—death, injury and economic loss.

The safety record of your community gains no merit if the worker with an accident-free record in his shop is killed while jaywalking. The tragedy is the same when the housewife who never had an accident driving the family car, electrocutes herself handling a defective lamp socket in the bathroom.

Safety has become such a complicated problem in our modern world that no segment of it can be sealed off from other segments. Not only have all phases of accident prevention a common origin—all stemming from the industrial safety movement started in the early part of the century—but they are closely interwoven in our social fabric. Safety in its various forms runs through the whole gamut of our social relationships. Under these conditions, for the industrial safety engineer, the highway or traffic safety specialist, or the school supervisor to conceive his task as sort of a Lone Ranger's job is to limit the potentials of his own specialty and the safety movement as a whole.

Mastering the Machines

Hazards of living vastly multiplied with the rapid mechanization of our factories, homes, farms and transportation facilities. Our common task is to help people to master the machine. Unfortunately, most people are inclined to shift the burden of safety responsibility onto science and engineering.

We have made remarkable progress in safe guarding our mechanical conveniences, and the search for new improvements goes on constantly. The real crux of the problem, however, is not unsafe machines, but careless people. It's not so easy to develop accident-proof human beings—and from 85 to 90 per cent of all accidents are due to human failure.

These human failures comprise three major factors: Attitude, ignorance, and physical and mental condition. To reduce these accident factors, we must develop the knowledge, attitudes, skills, and the health standards that are requisite for reasonable safety in a mechanized age. In every sense, this is a cooperative job.

Industry has long recognized the value of periodic physical examinations, particularly in hazardous occupations. A similar requirement with respect to the operation of motor vehicles would doubtless be a great boon to traffic safety. Yet it may be a long time before public opinion will support such examinations and the meeting of minimum physical qualifications, as a condition to obtaining a driver's license. A good start, however, has been made in the Interstate Commerce Commission requirement for a periodic physical examination for drivers of interstate motor vehicles. It is part of our responsibility to the public to encourage general acceptance of such a common sense measure in the interest of safety.

Currently the dominant concern of all of us is our security as a nation. One of the most important factors in attaining that security is the conservation and maximum use of our human and material resources. We are desperately seeking the manpower for industrial production and the armed forces. At the same time our national strength is being weakened by accidents. As the American Medical Association reported in 1948:

"We see that fatal accidents outrank every other cause of death as a destroyer of the working years of life—the years which represent the productive and mili-

By NORMAN DAMON

The individual is the focal point of accident prevention but real safety is achieved by many people working together

tary strength of the country."

Consider the fearful toll in 1950 alone: 90,000 deaths, 8,900,000 injuries, with resultant economic losses totaling $7,700,000,000. Not counting railroad, airplane, and public accidents, the fatalities included 35,000 deaths in traffic, 27,500 home accident deaths, and 15,500 occupational accident deaths. I might point out that with the exception of 1941, last year's traffic toll was the highest in 13 years, and that this past January showed a 17 per cent increase in deaths over the corresponding month of 1950.

If the current trend continues, 1951 may produce more than 40,000 traffic fatalities—an all-time record in the history of automotive travel.

According to the "working life expectancy table" of the American Medical Association deaths of workers in motor vehicles, occupation, public and home accidents resulted in loss of approximately 950,000 future man-hours of productive labor.

Howard Coonley, former president of the Walworth Company, now serving as Conservation Planning Specialist of the Defense Production Administration, recently told a group of safety engineers in Washington, D. C., that the time losses from occupational accidents during the war years, 1942 and 1945, were equivalent in manpower to that required to build 30,000 heavy bombers or 235 battleships. He added that time losses from farm accidents were equivalent to the manpower required to produce 750 million bushels of wheat per year, or 75 per cent of our average yearly wartime production.

From the standpoint of waste of materials, think what motor vehicle accidents alone are costing us. There are more than 9 million such accidents annually. Over two million of these result in property damage in excess of $25. Virtually all of them require some repair or replacement work. In the future, every accident involving damage will use up critical materials vitally needed for defense.

These facts give only a partial picture of the huge penalties America pays for mass carelessness. Accidents are also placing an insufferable burden on our limited medical and hospital facilities and on our blood plasma banks. Moreover, they are robbing us of many doctors and nurses, in addition to skilled production workers, and even reach into the ranks of the military forces. Not long ago the commander of the jet training center at Selfridge Field, Michigan, became so alarmed at the number of traffic casualties among his personnel that he instituted a rigorous safety program of his own. Within five months he reduced traffic accidents at his base nearly 50 per cent.

Hidden Costs

There are the numerous hidden costs of accidents—the charges that don't figure in the publicized economic losses, but still impose a constant levy on the pocketbook of every citizen. There are increased insurance costs; extra taxes for additional traffic control personnel and facilities, and for the medical and hospital expenses of injured indigents who cannot pay their own bills. Pertinent in this connection is the estimate made by Professor Sumner Schlichter of Harvard University that there are, in the nation, well over a million low-income families headed by persons who were formerly members of the working force, but are now

—*To page 46*

the LIGHTER SIDE
by SID HIX
GATHER THE LILIES FOR HERKIMER KEATING WHO WENT FOR A SWIM TOO SOON AFTER EATING!
HENRY, FIX THAT TOP STEP!
JUST MARRIED
BEEN WEARING RINGS WHILE RUNNING A MACHINE?
NO, PEELING POTATOES WHILE WATCHING TELEVISION!

CORE ROOM on second floor of foundry building. Sand is carried from storage bins by a fork lift truck with bucket attachment and dropped through grating which keeps foreign matter out of sand. Bucket elevator delivers sand to muller. After mulling sand is discharged into bucket as shown, bucket is transported by monorail and discharged as needed into hopper at coremaker's station. Bottom part of hopper will slide out to permit coremaker to place sand directly in core box or on bench. Each station is equipped with individual air hose to clean core box. Packs in rear of stations are used for green core storage. After racks are filled they are removed by lift truck and placed in core oven. No shovels or wheelbarrows are required. Handling of core plates is reduced to a minimum, reducing dropping of plates on feet. Distance between core racks and stations is short.

Looking over a

THE MAJOR PROBLEMS confronting the foundry industry are the safety of its workers and an approaching shortage of manpower.

During 1948 the iron and steel castings industry produced 14,510,032 tons of finished castings with 259,300 employees. Each employee produced 55 tons of castings. In 1950 these same foundries produced 13,899,637 tons of castings with 230,000 employees. Each employee produced 60.5 tons of castings. The industry lost 29,300 employees but picked up about 4.5 tons of production per worker.

It is estimated that these foundries will be required to produce at least 50 per cent greater tonnage in 1951. Roughly, that will require 45,000 new employees. As to where we can get them, your guess is as good as mine.

SECTION of foundry before mechanization. Operations could not be called safe and orderly. At right is same section after modernization.

SQUEEZER LINE operating with a traveling mold conveyor. Overflow or used sand is disposed of by grating and dropping on belt conveyor below floor. No sand shoveling or extra lifting is required. Molder stands on level footing. There are no sand piles to throw him off balance; no shifting of molds while rolling over.

SHAKEOUT END of mold conveyors. Sand has passed on to hoppers. Castings are being delivered to conveyor for movement to cleaning room.

By F. B. SKEATES

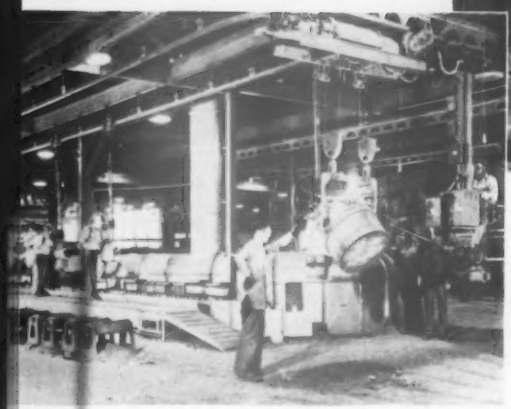
F. B. SKEATES *is General Superintendent, Pershing Road Plant, Link-Belt Company, Chicago. This article has been adapted from an illustrated talk at the Occupational Safety Conferences of the Greater Minneapolis Safety Council, March 21, 1951.*

It is my opinion that foundries will have to employ and train a great many more women than they did during World War II. Also, they will have to rely upon considerable development of new methods through mechanization. We should therefore take inventory of our jobs and equipment. We must make jobs safer and less fatiguing, taking into consideration the older persons and women who may be employed in increasing numbers.

It is recognized by employers and insurance companies that one of the important factors in job security is protection against on-the-job accidents. We can provide it by furnishing safe equipment and competent supervision, both of which help to make a shop a good place to work. I am convinced that the greatest cause of lost time injuries in the foundry is fatigue.

There are numerous operations in a foundry that can bring on fatigue. Some of them are: shoveling and wheeling sand, rolling over molds, carrying finished molds from station to pouring area, shakeout of molds by hand, carrying molten metal, pouring, and handling shakeout castings.

MECHANIZATION of squeezer for small foundry with overhead sand delivery to hoppers. Sand is discharged into flasks by means of a gate control. After mold is completed, it is placed on gravity roller. Molder is not required to do any lifting as gravity rolls are set at same height as table of molding machine. Flasks and bottom boards can also be reached with little effort.



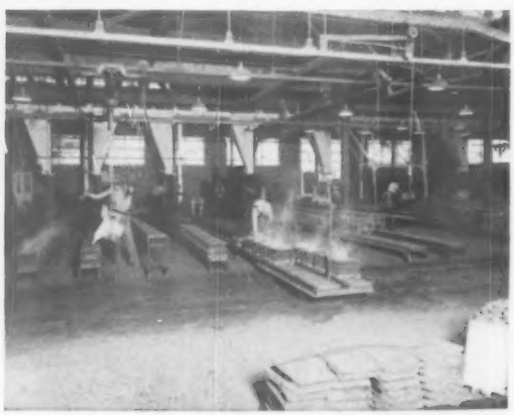
Above: An undesirable method of pouring. Left: A better method. Pourer is receiving metal from large ladle. In rear other pourers at work.

The accompanying illustrations show some of the improvements in foundry equipment and operation that have reduced physical effort and improved working conditions generally.

It is my firm belief that equipment is only as safe as the people who operate it. A good, sound safety program, based on education and cooperation, should be initiated and carried on consistently.

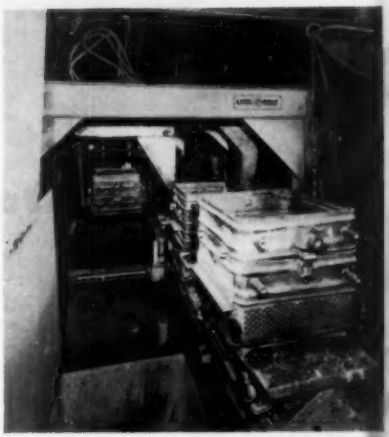
POURING PLATFORM of brass foundry unit. Molds are carried on trolley type conveyor.

POURING on a gravity roll system. Metal is delivered by monorail to pouring ladles. Molds are high enough that pourer does not have to bend over. He can move from one line to another by securing ladle in position and pushing overhead crane to next line. Poured molds are moved to transfer car and delivered to shakeout unit. Shaking out is at central station where steam and smoke can be controlled. Pourer operates in unobstructed area.

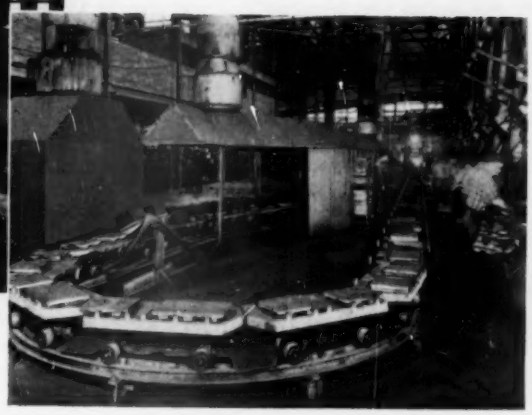


ANOTHER TYPE of shakeout unit. This is the end of the line for these squeezer molds. As mold passes over a given point, it is tripped to a slope where mold slides off car, discharging sand and castings onto shakeout screen. Bottom board is retained on conveyor and is returned to molding station. Poured molds pass through enclosed area. Hoods are ventilated so that steam, smoke and gases pass out of building. No manual labor is required from point of pouring until castings reach sorting table.

ONE SHAKEOUT METHOD. Molds coming from gravity roll system. After molds are poured they are moved to end of line. Entire mold, including castings, is dumped into an oscillating conveyor below the floor, which transports sand and castings to their proper places. Man retains only bottom board.



ANOTHER TYPE of automatic shakeout. These are molds and flasks made on roll-over or other type molding machine; they are known as tight flasks. Molds are engaged by a series of clamps, moved to center of shakeout chute, and vibrated until sand and castings are removed. The clamps have placed the empty flasks on return conveyor which will deliver boards and complete flask unit to molding station. Castings and hot sand are dropped into hopper and from there they will be deposited on conveyor. Shakeout is protected with dust-collecting units. Hazard of burns and strains is practically eliminated.



Above: Old method of shakeout with sand yet to be conditioned. Right: Present method at same shop.

Oaf with a Banjo

(Fiction)

By BILL ANDREWS

June 1, 1951

He's a fairly objectionable oaf.

He's more than just a little cocky. He has a large measure of cynicism in his make-up. He's a bit too quick to form a judgment and a lot too slick in his arguments defending those judgments.

But he has one important redeeming feature—a capacity for looking at himself and being amused at what he sees when he does. For this quality I can forgive him much—even his failure to be impressed by my obvious genius and by the overwhelming importance of my work.

I'm talking about our plant publication editor. He is, after many years in our plant, still for my money almost a total ignoramus in all technical matters. His personal appearance and the chronic disorder of his cubbyhole office are proof of a sloppy, careless character. The magazine he gets out is frequently marred by inaccuracy.

In fact, the magazine hasn't got a thing to recommend it except that the employees love it!

On publication day, the pile of magazines by the time clock melts fast, and we don't find copies scattered around the locker room or the sidewalk. The ancient, battered gags which he revives for his alleged humor section are repeated, and the cartoons he begs and steals are clipped and pasted on walls and on machines. The gooey personality section, with its monotonous repetition of the engagement - marriage - birth - graduation - death cycle, is read avidly. And four times since I've been in the plant the local newspaper has reprinted some of the picture feature spreads (which are pretty superficial, it seems to me) in the Sunday supplement, to the delight of Mac, our public and employee relations man.

What particularly scours my soul is the fact that I have to go and beg this Lee, the editor, for space. I'm pretty sure he stands instructed by the front office to give safety a big play. Yet if I go down and holler at him for space to outline a new set of work rules, he puts his feet on the desk, a sour expression on his face, and delivers a dissertation on journalism.

I am, it appears, a hopelessly naive soul if I expect people to read such weary guff as I want to inflict upon them. I am told, with a pedantic firmness I resent in a guy who doesn't make any more money than I do, that rules, statistics, and preaching are a waste

of time. I am given to understand that only out of the goodness of his heart is Lee not giving in to the temptation to demolish my whole program by letting me present it in the magazine the way I want to.

"Look," he has said to me no less than seven different times, "what you say in a training meeting on company time a guy gets paid to listen to. You've got a right to wake him up if he goes to sleep on you. Not me—not in the magazine. I've got to hit him after he's checked out, when he doesn't care whether school keeps or not. If I put him to sleep, I can't wake him up. I haven't even got the advantage a daily newspaper has—you can't use my sheet to wrap tomorrow's fish. It is the wrong size.

"I run a medicine show, because I've got to attract my own crowd. I've got to get out in front of the tent and play the banjo if we're going to have an audience to hear the latest effusion of the front office—or the latest preachment from the safety director. But there's a difference between how many hoops I jump through for the chairman of the board and for the safety director. If *you* want space, you've got to help out on the entertainment. How's your tap dancing, friend?"

So I've gone in for what he calls tap dancing. I've sweated out some features with him, spending weary hours on scenarios for picture stories, helping stage cute assembly-line gals in almost-but-not-quite cheesecake poses, taking a two-page story to get over one simple point.

I remember the first yarn we worked on together. It was on falls. Now, we'd been having a lot of falls, a lot of different kinds of falls. I wanted a picture on each major type, and copy space enough to make a decent presentation of the causes and methods of prevention. Not Lee.

"Pick one," he said, "one that can involve girls—pretty girls with legs."

So, after I had lost the argument, we did one on girls falling on stairs. It was hammy. It was faked. It left out a lot. There wasn't one darned thing about the spread that I liked except that it got read, talked about, laughed at. Oh, yes, one other point—there was noticeable improvement in the way the kids handled themselves on the stairs after it appeared.

It still seems to me wasteful to give a lot of attention to only one thing, but Lee is impossible to reason with. "Tell 'em one thing at a time. Make 'em believe it. That's better than telling 'em 10 things they don't listen to."

Once I had a letter dictated to Carman Fish of the National Safety Council, whose *Newsletter*

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Winners of 1950 Railroad Employees' Safety Contest

Six Class I railroads, which have been named group winners in the Railroad Employees' National Safety Award of the National Safety Council, had a 1950 employee casualty rate 56 per cent less than the average rate for all railroads in the group.

The combined rate of employees killed and injured per million man-hours worked was 3.37 for the six winners, as compared with a 1950 rate of 7.65 for all Class I railroads (those whose operating revenues exceed $1,000,000 annually).

The six Class I winners and their rates follow:

Illinois Central Railroad Company won first place among railroads whose employees worked 50,000,000 or more man-hours in 1950. Its total accident rate was 3.19, as compared with an average of 6.81 for all railroads in this group.

Missouri-Kansas-Texas Railroad Company was winner in the 20,000,000 to 50,000,000 man-hours group. Its rate was 4.49, as compared with an average of 6.04 for all railroads in the group.

Duluth, Missabe and Iron Range Railway Company won first place in the 8,000,000 to 20,000,000 man-hours group. Its rate was 2.47, as compared with an average of 10.98 for the group.

The Colorado and Southern Railway Company was winner in the 3,000,000 to 8,000,000 man-hours group, with a rate of 3.61 as compared with a group average of 10.31.

Georgia Southern and Florida Railway Company was first in the 1,000,000 to 3,000,000 man-hours group. Its rate of 4.07 compares with a rate of 12.48 for all railroads in this group.

The Texas Mexican Railway Company won in the group whose employees worked less than 1,000,000 man-hours, with a rate of 2.28 as compared with a group average of 13.38.

In other divisions of the contest, winners were:

The New York zone of the *Pullman Company* had the best employee safety record among the company's operating zones, while among its shop units, the Richmond, Calif., shop was the winner.

Among the switching and terminal railroads (those not engaged in line-haul operations), *New Orleans Terminal Company* was winner in the group whose employees worked more than 1,500,000 man-hours. *Birmingham Southern Railroad Company* had the best record among the roads whose employees worked less than that amount during 1950.

"The railroads of the nation are continuing to set outstanding records in employee safety," said Ned H. Dearborn, president of the Council. "Although their total casualty rate in 1950 went up slightly due to fewer man-hours worked, the number of deaths was the lowest in the history of American railroading."

Cleanliness, Competence, and Cooperation—These three "C's" are essential in operating a safe, orderly plant

WHEN PRODUCTION EMPLOYEES check out, another phase of activity begins in the industrial plant. Clean-up and maintenance crews go into action getting the plant and its equipment ready for the next day's work. Standards for food products plants are exacting.

LEFT: Spraying the walls of a storage area at the Hoboken plant of Thomas J. Lipton, Inc., with DDT. This chemical is used in areas where raw food materials are not exposed. Where food is exposed, PB (piperonyl butoxide) a non-toxic chemical is used. Respiratory protection and proper clothing for the job are worn.

LOWER LEFT: Nightly the sanitation squad is busy getting the plant clean and orderly for the next day's work. A vacuum cleaner dries floor after daily scrubbing.

LOWER RIGHT: Floors are important in plant maintenance. The ⅛-inch steel plate flooring in the San Francisco shipping department has proved satisfactory for handling materials and is easy to sweep.

OPERATION SANITATION

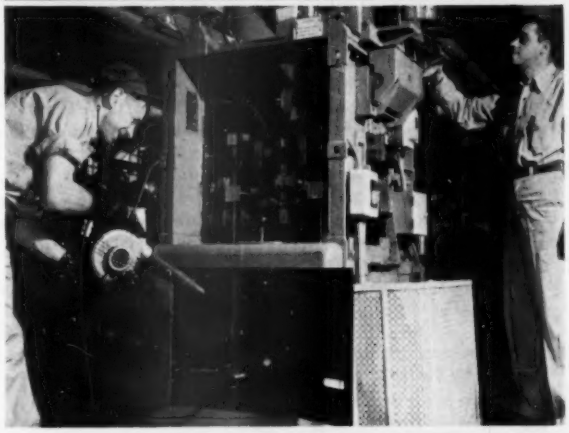
At the seven plants of Thomas J. Lipton, Inc., with headquarters in Hoboken, New Jersey, alert sanitation crews are on the job while others rest and play. Their work is important in safeguarding the health of both workers and consumers.

Scrubbing floors, sweeping, stacking pallettes, spraying, painting, wiping and brushing are just a few of the housekeeping chores that must be done before the next day's activities begin.

At the Hoboken plant on a Saturday, for example, it is a common sight to find the sanitation men on the job, doing many of the tasks that require more than the daily eight hours. Weekends are used for such jobs as spraying the various departments with insecticides.

The work of the sanitation crews is aided by the use of mechanical equipment wherever possible. Vacuum cleaners and floor machines do much of the heavier work but there is still need for brooms, brushes, mops and wiping cloths.

Employees realize that the sanitation squads do not relieve them of the responsibility of doing their share to keep the plant clean. An important aid in the program is the company magazine, *The Lipton Link*, edited by June Guncheon, which carries regular illustrated feature stories on housekeeping and accident prevention.



TOP: Using a vacuum cleaner to remove any powder which may have sifted from bags onto machinery. The cleaner is a special explosion and dust-proof machine built for hazardous dust-cleaning jobs.

MIDDLE: In the Hoboken Tea Production Department a blower is used to remove dust which can jam intricate workings of a machine. Machines are cleaned and inspected daily.

BOTTOM: Buffing a new plastic tile floor in the Hoboken Food Division. This new flooring has been found easy to keep clean and also easy on the feet. A floor machine stretches manpower and does an effective cleaning job.

First Aid for Airlines

By GORDON P. ST. CLAIR

WITH their personnel deployed beyond the availability of immediate professional medical attention in case of accident, the airlines are confronted with first-aid problems more complex than those of an industrial plant with centralized and self-contained operations.

Due to the nature of the business there is an overlapping of authority of various governing bodies—federal, state and city and their bureaucratic subdivisions. This is further complicated by the wide range of operations and variety of activities at widely separated points under these various governing bodies. To consolidate these factors requires only organization — the components being personnel, equipment, supervision and training.

There are rules for regularly scheduled and overseas airlines, rules for the number of employees in an office or business establishment or other places of employment, rules for machine shops, first-aid requirements based on distance from hospital, and rules for motor-driven vehicles of any type for industrial or commercial use.

Certain common objectives of the administrating bureau are to protect the employees and/or passengers, and to reduce the number of compensable injuries due to infection of an injury or mishandling of the injured. These objectives are based on the premise that first aid is given and there is no self-medication.

A study of current laws and regulations for both air and ground operations issued by various governing bodies indicates considerable duplication. By preparing a consolidation chart these duplications become evident.

Some of the major airlines already have accomplished this, using as a basis, CAA Safety Regulation Release No. 128. A first-aid assortment in kits for aircraft carrying 25 passengers or more would meet the needs of, and in most cases exceed, other operational requirements, just as it would meet CAA requirements for planes carrying under 25 passengers.

In the interests of economy, uniformity and interchangeability of equipment, it is advisable, so far as possible, to reduce the number and variations in the size of first-aid kits to one or two.

By having one kit interchange-

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GORDON P. ST. CLAIR *is President, Medical Supply Company, Rockford, Ill.*

STANDARD CONTENTS - UNITED'S FIRST AID KITS

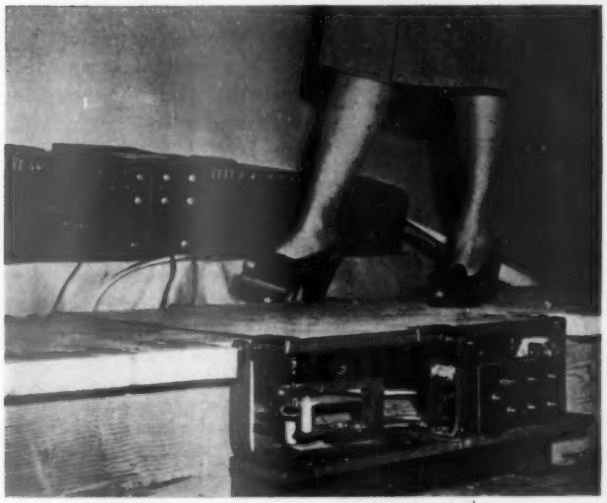
UNIT NOS.		UNIT NOS.	
100MM	1" ADHESIVE COMPRESS MEDIPLAST	108A	2" COMPRESS BANDAGE
100MM	1" ADHESIVE COMPRESS MEDIPLAST	110A	AMMONIA AMPOULES & DRINKING CUPS
100MM	1" ADHESIVE COMPRESS MEDIPLAST	110A	AMMONIA AMPOULES & DRINKING CUPS
101AF	FOILLE	115A	TRIANGULAR BANDAGE
101AF	FOILLE	120AA	TOURNIQUET FORCEPS SCISSORS
104A	AMMONIA INHALANTS		
105A	IODINE SWABS	121A	3" COMPRESS BANDAGE
105A	IODINE SWABS	125A	ADHESIVE TAPE
106A	EYE DRESSING PACKET	125A	ADHESIVE TAPE
107A	GAUZE BANDAGE	136A	GAUZE COMPRESS
107A	GAUZE BANDAGE	136A	GAUZE COMPRESS
107A	GAUZE BANDAGE	166A	GAUZE BANDAGE

THE ABOVE CONTENTS ARE STANDARD AND NO OTHER MATERIAL IS TO BE ADDED OR SUBSTITUTED.
MEDICAL AND SAFETY DEPARTMENTS

Unit-type kit, planned by a major airline to meet CAA specifications. Individual applications are kept surgically clean until opened for use and are easy to replace.

Above: Chart showing standard contents of first-aid kit.

It Watches Your Step



ELECTRONIC STEPMETER developed at National Bureau of Standards measures vertical and horizontal components of forces exerted by the leg on a walkway surface during a step. Deflections of springs at the four corners of the platform produce output voltages in the electro-mechanical pick-ups proportional to the forces involved. The output voltages are amplified and recorded with respect to time by an oscillograph. Walkways on a level with the platform of the stepmeter are used so that walking on a level surface can be simulated.

ELIMINATION of hazards imposed by slippery walkway surfaces—responsible each year for a large number of serious injuries and accidental deaths—is the principal objective of a research project at the National Bureau of Standards.

To obtain basic quantitative data on some of the factors involved in the slipperiness of walkways, the Bureau has devised an electronic stepmeter which measures the three components of force produced between the foot and the floor in normal walking. Data thus provided on the mechanics of walking should materially aid in the development of a suitable instrument and method for measuring the slipperiness of walkway surfaces.

Human locomotion is accomplished by virtue of the force exerted by the leg on a walkway surface. Gravity and the friction between the two contact surfaces are important factors. Information in the literature which applies directly to the problem of analyzing the interaction between walkway and footwear surfaces and establishing of the range of conditions likely to be encountered in walking is meager.

Under the direction of Perry A. Sigler of the Bureau's Building Technology Division, the project has involved several phases of investigations. These include a study of published pictures of persons at various stages of locomotion; the production and study of slow-motion pictures of people walking; an investigation of the contour of the rear portion of worn shoe heels; and the quantitative determination of vertical and horizontal components of the force exerted by the leg on a walkway surface during progression using the electro-mechanical force plate.

The electronic stepmeter, developed by W. E. Williams of the NBS staff, consists primarily of a 2-foot square platform mounted on ball bearings attached to four J-shaped springs. The four sides of the platform bear against ball bearings attached to L-shaped springs which are kept under slight tension so that all will follow the horizontal motion of the platform.

Electro-mechanical pick-ups, an adaptation of the mutual-inductance electronic micrometer previously developed by M. L. Greenough at the National Bureau of Standards, are mounted adjacent to the appropriate springs. Deflections of the springs due to forces exerted against them produce output voltages in the pick-ups proportional to the forces in each of three directions—vertical, longitudinal, and transverse.

Walkways on a level with the platform of the stepmeter are used so that walking on a level surface can be simulated. The output voltages are simplified, and are recorded, with respect to time, by an oscillograph.

Oscillographic recordings of the vertical and horizontal components of the force exerted by the leg on the platform of the stepmeter during a step have been analyzed for seven men and five women.

Horizontal forces are the ones that must be counteracted by friction in order to avoid slipping. The ratio between the resultant of the horizontal forces and the corresponding vertical force represents the minimum coefficient of friction necessary to prevent the foot from slipping on a walkway surface at the particular stage of the step involved.

The general shape of the curves for all of the subjects was surprisingly similar. The principal difference in the oscillographic recordings was in the magnitude of the maximum values for both the vertical and longitudinal forces. The weights of the 12 subjects ranged from 107 lb to 247 lb, their heights from 5 feet 2 inches to 6 feet 4 inches, and their ages from 27 to 60 years. Footwear included rubber and leather heels and soles, and, for the women

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Across seven states served by Shell pipe lines, the safety program is providing safer working conditions and a means of communication between management and men

Two-Way Channels

By D. M. FARRELL

GOOD INDUSTRIAL relations require effective two-way channels of communication between workers and management. Such are imperative if management expects to sell the company and its policies to the workers, and if it is to be honestly informed of their attitudes, problems and needs, and in a position to respond to them.

A safety program offers opportunities for the creation of two-way channels, and I offer our company's experience as an example.

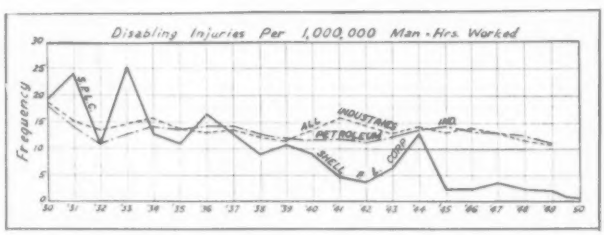
The Shell Pipe Line Corporation, with 1500 employees, operates 4500 miles of pipe line in the southwestern states. Here are some of the channels which have proved effective.

Safety chapter meetings
Poster services
Monthly accident reports
Employee publication articles
Fire-fighting demonstrations
First-aid training
Supervisory training
Employee training
Instruction by foremen
On the job safety meetings
Letters from management
Suggestions by area safety engineers
Instructions by area and division superintendents

The best channels of two-way communication are provided by our safety chapters. Twenty-nine of these have been organized by our safety engineers along the pipe line to include all rank-and-file workers and their direct supervisors. Formed by a conveniently adjacent group of about 50 employees, each chapter annually elects officers who conduct formal quarterly meetings.

These meetings are held at night on employee time but company transportation may be used. More than 80 per cent of the employees attend them regularly, and at good programs 100 per cent attendance is common. Division, area and head office supervisors are always invited.

The meeting programs vary. Two each year include dinners and a picnic financed largely by the company. Meetings usually



The 20-year frequency record of Shell Pipe Line Corporation.

D. M. FARRELL *is Assistant Area Manager, Texas-Gulf Area, Shell Pipe Line Corp., Houston, Tex. This article has been adapted from a talk before the American Society of Mechanical Engineers, New York, November 30, 1950.*

feature such items as a short talk by a local citizen, discussion of some company policy, showing a safety movie, presentation of safety awards, and a brief talk on safety. The last is followed by a frank discussion of local conditions from the safety standpoint. Minutes are written and mailed to those concerned.

Supervisors join in the safety discussion and are expected by management to correct unsafe conditions as soon as possible. Often irritating working conditions have been brought out and discussed freely at meetings. Corrective action has followed promptly. Now, our independent union councils or "grievance committees" have little on their bimonthly agendas other than special seniority cases and general matters.

Much employee unrest results from a pyramiding of small grievances. The safety chapters literally "hire a hall" where unsatisfactory physical and supervisory conditions can be discussed and nipped in the bud. When workers and supervisors—at times with their families—meet freely off the job, priceless camaraderie and mutual respect develop. Company policy is best understood and appreciated when explained informally.

Thus in the safety chapter we have an ideal atmosphere for promoting the common interests of employee and employer. Employees can blow off steam about working conditions without fear of reprisal, and with hope of improvement, if warranted. Management can sell the company and its policies to employees and convince them that they benefit personally by becoming ambassadors of good will in dealing with the public.

Safety chapters are organized under Roberts' Rules of Order, and officers are elected by each group annually without distinction between supervisors or workmen. Officers for the ensuing year are elected in December, and in January they receive four days' training to qualify them for leading their groups. This training is, of course, provided at company expense.

RIGHT: An informal on-the-job safety meeting at an isolated location.

BELOW: A family night safety meeting. When workers and supervisors, at times with their families, meet freely off the job, friendship and respect develop.

Effective channels for work improvement are on-the-job safety meetings. These are held by each foreman with his crew the first few minutes on the job each Monday morning. The foreman reads a two- or three-minute mimeographed safety message prepared by the superintendent or the safety engineer. The purpose of the message is to provoke a few minutes of discussion by the crew members.

A typical on-the-job subject is: *The right way is the safe way.* It shows the necessity of the foreman

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NATIONAL SAFETY COUNCIL

AUDITOR'S REPORT — 1950

The firm of Arthur Andersen & Co., 120 South LaSalle Street, Chicago 3, Ill., was engaged to audit the accounts of the National Safety Council for the year 1950, and has submitted the following report:

To the Board of Directors, National Safety Council:

We have examined the statement of assets and liabilities of NATIONAL SAFETY COUNCIL (an Illinois corporation organized not for profit) as of December 31, 1950, and the related statements of income and expense and changes in net assets for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

Prior to January 1, 1950, the Council followed a policy of charging to expense at the time of acquisition or production the costs of printed material, films, furniture and fixtures, and printing machinery and equipment. As of that date the Council has adopted a policy, with which we concur, of allocating such costs to expense in the periods in which they will be used or expire. In connection with this change of policy, the Council has adjusted its accounts as of January 1, 1950, in order to record as assets the costs properly allocable to future periods of the above-mentioned items that were then on hand and previously had been charged to expense. As of January 1, 1950, the Council has also revised its method of determining deferred income. The new method, with which we concur, has the effect of including for the first time in deferred income all of the income from membership and service contracts which relates to future periods. The effect of the adjustments resulting from the foregoing changes on the net assets employed for the benefit of members as of January 1, 1950, are reflected in the accompanying statement of changes in net assets. In all respects, other than the changes noted in this paragraph, the basis on which the Council has applied generally accepted accounting principles in the preparation of the accompanying financial statements is consistent with that of the preceding year.

In our opinion, the accompanying statement of assets and liabilities and statements of income and expense and changes in net assets present fairly the financial position of National Safety Council as of December 31, 1950, and the results of its operations for the year then ended, and were prepared in conformity with generally accepted accounting principles.

ARTHUR ANDERSEN & CO.

March 6, 1951.

STATEMENT OF ASSETS AND LIABILITIES, DECEMBER 31, 1950

ASSETS

CURRENT ASSETS:		
Cash, including $6,493.89 held by Trustees		$ 142,110.50
U. S. Government securities—		
Savings bonds, at redemption value	$149,392.70	
Treasury bonds, at cost (market value $33,033)	32,882.50	182,275.20
Accounts receivable, less allowance for doubtful accounts of $11,217		346,998.65
Inventories, at approximate cost which is not in excess of market—		
Printed material and films	$396,673.47	
Paper, ink, metal stock, etc.	33,612.96	430,286.43
Total current assets		$1,101,670.78
DEFERRED CHARGES		71,959.01
FIXED ASSETS, at approximate cost:		

	Cost	Reserves	
Furniture and fixtures	$101,337.00	$ 35,125.00	
Printing machinery and equipment	35,200.00	20,706.00	
Leasehold improvements	242,234.00	17,150.00	
	$378,771.00	$ 72,981.00	305,790.00
			$1,479,419.79

LIABILITIES

CURRENT LIABILITIES:		
Accounts payable—trade		$ 123,112.04
Employees' income taxes withheld and accrued expenses		64,624.63
Deferred income — unfulfilled membership and service contracts		615,000.00
Total current liabilities		$ 802,736.67
CONTRIBUTIONS HELD FOR SPECIAL PROGRAMS		59,074.17
NET ASSETS EMPLOYED FOR THE BENEFIT OF MEMBERS		617,608.95
		$1,479,419.79

STATEMENT OF INCOME AND EXPENSE FOR THE YEAR ENDED DECEMBER 31, 1950

INCOME:	
Dues, publications and services	$1,990,754.61
Contributions	526,509.95
Advertising, Annual Congress, etc.	304,095.33
	$2,821,359.89
EXPENSES:	
Outside publication costs	$ 687,790.84
Research and program activities	664,817.75
Membership, promotion, sales and services	567,990.69
Local chapter and council development	117,403.00
Public information	115,230.51
Contribution solicitation	71,352.76
General and administrative (including moving and related expenses of $91,431.85)	499,450.36
	$2,724,035.91
EXCESS OF INCOME OVER EXPENSE	$ 97,323.98

Storing Dynamite on the Job

WELDED STEEL weathertight container developed by Dravo for dynamite storage on field projects. In the container, dynamite is protected against pilferage. Containers can be dragged by tractors or transported on trucks, ships, rail cars or barges.

Safe storage of dynamite has long been a problem for construction firms and others who handle large quantities of the explosive.

The Hunkin-Conkey Construction Company believes it has a solution to the problem. On one of its projects, extension of the Pennsylvania Turnpike near Pittsburgh, the company is using about 8,000 pounds of dynamite weekly.

To store large amounts of the explosive near blasting sites and protect it against pilferage, the company uses two big welded steel shipping containers. The 275-cubic-foot boxes with a weight capacity of six tons were developed by Dravo Corporation, Pittsburgh, for steamship lines to eliminate pilferage, minimize breakage and ease pier and shipboard handling of export cargo.

Company engineers say the containers are ideal for dynamite storage and tool cribs because they can be transported by barge, ship, railroad car or truck. Equipped with skids, they can be dragged by tractors. Lifting rings are provided on the top for moving them with a crane. The doors are fitted with locks.

To minimize the hazard of sparks from contact of shoe nails or tools with the metal floor and walls, the dynamite containers were lined with one-inch sheathing. This also acts as a barrier to lessen the impact of stray bullets in hunting areas. The boxes are weathertight and can be stored in the open.

By using the steel containers, which are known as Dravo "Transportainers," the construction company has been able to purchase dynamite in larger lots and take advantage of quantity buying discounts which run as high as 35 per cent.

In addition to the two Transportainers for dynamite, the company has another one for storage of valuable tools.

STATEMENT OF CHANGES IN NET ASSETS EMPLOYED FOR THE BENEFIT OF MEMBERS FOR THE YEAR ENDED DECEMBER 31, 1950

	Appropriated for Future Activities	Unappropriated
Balance December 31, 1949, as previously reported	$100,000.00	$141,718.05
ADJUSTMENTS:		
Recording cost of assets on hand at January 1, 1950, which previously had been charged to expense but were properly allocable to future periods—		
Printed material and films	—	304,923.92
Furniture and fixtures	—	39,390.00
Printing machinery and equipment	—	16,253.00
Increase deferred income as of January 1, 1950, to include that portion of the income from certain membership and service contracts which was properly allocable to future periods	—	(82,000.00)
Balance at beginning of year, after adjustment	$100,000.00	$420,284.97
Excess of income over expenses, as above	—	97,323.98
Transfer to unappropriated	(100,000.00)	100,000.00
Balance at end of year	$ —	$617,608.95

The Safety Valve

"The Smith a Mighty Man Is He . . ."

ONE OF THE places where I used to loiter on the way home from school was the blacksmith shop. It offered such a fascinating combination of sights, sounds and smells—the glow of the forge against the gloom of the shop, the clang of hammer and anvil and the sparks from red hot iron, the hiss of a hot shoe plunged in the tub of water, and the pungent odors of coal fumes, horses, and smoking hoofs as hot shoes were applied.

The blacksmith himself, was an ancient Scot, fascinating, too. His face was like a Skye terrier's, almost hidden by bushy gray whiskers. He used to talk to refractory horses in Gaelic.

Being a pushover for the nostalgic stuff, I fell for the picture shown here and used it on a cover. But not even the note on the contents page, intimating that the shop left something to be desired from the standpoint of safety, disarmed the sharpshooters. One reader asked if we got that picture from a remote spot in the Appalachians.

Without taking time out for field investigation, I couldn't prove it, but my hunch is that you could find an equally primitive shop right here in Chicago. There are still horses in the city, so there must be horseshoers. And no trade has been less affected by modernization.

Although he doesn't shoe horses, the smith is still serving industry—under much better conditions, as you will note by comparing this picture with the one on the cover.

Cause and Cure

IF YOU have anything to say against dogs, be ready to duck. All the dog lovers in the country will be on your neck.

But there are also people who want to make this a muttless world. They can be quite vocal too. Some postmen, meter readers and delivery men are not convinced that a dog is man's best friend.

What prompted this piece was a letter from an indignant reader who objected to a story published in the NEWS a few months back. It merely quoted the Safety Bulletin of the U. S. Department of Labor telling how one city had reduced damage to postmen's pants and their contents.

The carriers, so the story goes, report all unsociable mutts on their routes. The postmaster then makes a friendly phone call to the owner, asking cooperation in restraining Fido. If this doesn't get results, one of the supervisors makes a personal call. Just what the next step is, the deponent sayeth not.

Carriers who have been nipped and become dog-shy are assigned to other duties where possible.

That story seemed harmless enough—just a news item without comment. Every publication uses news of what people are doing. They may endorse the idea wholly, partly, or not at all. It is presented merely as being of possible interest.

But this reader slapped us severely on the wrist for publishing such "junk." Why not eliminate the hazard at the source instead of adopting such palliatives? he argued.

That's a sound principle, where it will work, but where is there a safety program that hasn't been built on compromises?

Safety work involves a lot of "education" and moral suasion, which is what the postmaster in question has been using.

Also, industry is using vast quantities of personal protective equipment because it hasn't been practical to eliminate all hazards at the source.

Since exterminating the dog population is obviously out of the question, why not provide protective equipment for employees who must venture into customers' premises? A suit of armor and a halberd ought to discourage the fiercest dog.

In This Issue . . .

NORMAN DAMON, who is such a frequent visitor at NSC headquarters that he seems like one of the staff, presents this thoughtful appraisal of the problems facing the safety movement in these perplexing times. (Page 18)

The foundry, like the blacksmith shop, has changed for the better in recent years. Much attention has been given to the correction of health hazards and reduction of back-breaking jobs through mechanization. Here are some scenes from modern foundries. (Page 20)

This month, Bill Andrews' Safety Engineer has a brush with the employee publication editor who is following Paul Jones' example in keeping safety material from getting stuffy. (Page 24)

The main objective of a safety program is to reduce accidents, but Shell Pipe Line Corp. has found that it has important supplementary values in human relations. (Page 30)

Carman Fish

SAFETY QUIZ

FALL GUYS

UNLIKE the employees of Sun Oil Company who posed for these pictures, not all victims of falls are able to get away on their own power. The pictures, reproduced here through courtesy of *Our Sun*, illustrate some common causes of accidents in offices.

And if you want to find out how this quartet got in these undignified situations, just turn the page.

1. "Should have waited for the elevator . . . well, mail service is slow everywhere these days!"

2. "Yipe! I want to get up before that gang across the hall starts running in here."

3. "Say, I'd better call Larry right back and let him know Philadelphia hasn't been bombed."

4. "Oh, no! If I've ruined another pair of nylons . . . and I'm meeting Mike at five . . ."

SAFETY ANSWERS:

. . . OR, HOW THEY MET THEIR DOWNFALLS

1. An overload of packages obscured his view of the stairs, and he missed a step.

2. The stool on casters skidded like a scared rabbit. But that was a poor place for a file basket.

3. This contour lounge position may aid relaxation but he stretched back just a bit too far.

4. Her mind was on meeting Mike at five o'clock . . . And somebody hadn't closed the file drawer.

CAUSE AND CURE

These examples are from reports of actual accidents. They list the causes and the steps taken to prevent recurrence.

Fingers Cut

Mechanic was using a portable saw when the floating guard stuck. In trying to loosen the guard he caught his hand in the saw, suffering severe lacerations to his fingers.

Correction: All employees were warned never to make adjustments on power saws or any moving machinery until it is stopped and locked out.

Dusted Off

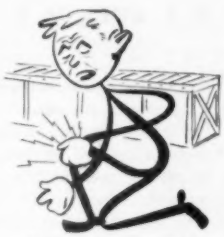
Laborer was pulling hot dust from kiln housing with large hoe, when he stepped into a pile of hot dust. Burn on outside of ankle resulted in infection.

Correction: Men were told to stand to one side instead of in front of opening and to wear high top safety shoes. The use of a temporary work platform to raise worker above the working level was investigated.

Wild Pitch

Worker was throwing welding cable up to a second floor level from below. In doing so he twisted the lower region of his back, causing strain.

Correction: Workers were instructed to use a hand line when lifting cable to such heights and told that provisions should always be made to hoist and lower materials under absolute control.



No Shortcut

In walking around the end of a conveyor, employee tripped and fell, injuring his knee.

Correction: Employees were told that when walking around in plant they should always use designated safe routes.

Strained Muscles

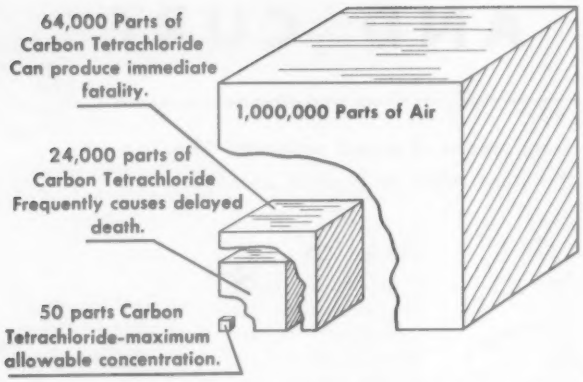
Employee was helping load pump shaft onto truck bed when he lost his grip. The shaft started to slip and when he shifted to regain hold he strained shoulder muscles.

Correction: Instructions were given to employees to remove excessive oil and grease from material before handling, and when possible, to use mechanical handling equipment.

Splashed

Caustic splashed into attendant's eye, while he was moving full drums of solid caustic soda from stack in storage shed.

Correction: Employees were told to wear the chemical goggles and the face shield that are provided, at all times when handling acid. Plans were made for improved handling facilities in the storage shed.



Cubes illustrate maximum allowable concentration of carbon tetrachloride compared with amounts which cause serious disability or death.

Potential Health Hazards In the Use of

Carbon Tetrachloride

By H. S. GIBBS, M. D.

BRIEFLY STATED, potential health hazards in the use of carbon tetrachloride are due: (1) to the action of the carbon tetrachloride itself, and (2) to other poisonous products, principally phosgene, resulting from the decomposition or alteration of carbon tetrachloride in certain applications.

Since these two subdivisions are radically different, and each affects the body in an entirely different manner, we shall discuss each separately from the standpoint of mode of action, effect produced, and methods for controlling the specific hazard.

While limiting the discussion to carbon tetrachloride, our remarks apply equally to other chlorinated aliphatic hydrocarbons as well as those solvents whose compositions include these substances. All compounds of this group have a similar effect on the various body systems. They differ only in degree of toxicity.

Let us consider first the health hazards due directly to the action of carbon tetrachloride on the human body.

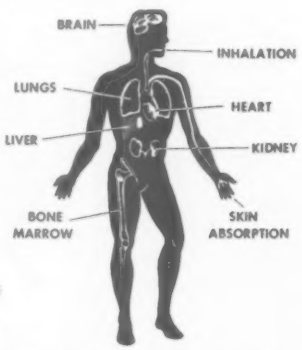
All of us are familiar with the importance of oil and grease in our mechanized way of life. Many industrial processes require thorough removal of grease in the production or maintenance of various commodities, such as those which are to be painted or electroplated.

Bringing it closer to home, our clothes would soon be unfit to wear without periodic cleaning, and our letters would be illegible if the secretary failed to clean her typewriter frequently. Solvents are the principal means at our disposal for combatting grease.

A good industrial solvent should possess these properties: (1) It should be capable of completely removing oil and grease. (2) It should leave little or no residue. (3) It should evaporate readily, leaving the surface dry. (4) It should entail little or no possibility of creating fire or explosion. (5) It should be inexpensive. (6) It should be relatively non-toxic.

If it were not for the fire and explosion hazards, the petroleum derivatives, or "so-called" Stoddard solvents, might be acceptable for most industrial purposes by these standards. In the search to eliminate these dangers the chlorinated aliphatic hydrocarbons were discovered to possess most of the properties desired in a solvent, particularly absence of fire or explosion hazards. Of these particular hydrocarbons, carbon tetrachloride has come into most common usage. It has long been recognized as probably the one solvent having most of the properties previously mentioned. In addition to being a good solvent it has further wide acceptance as a medium for extinguishing fires.

However, there is another aspect of the picture, which additional experience with carbon tetrachloride, and the other chlorinated hydrocarbons, has revealed. It was found that many individuals working with this sub-



Once carbon tetrachloride enters the body it is picked up by the blood stream and distributed to internal organs.

DR. H. S. GIBBS *is in charge of industrial medicine, United States Steel Company, Pittsburgh, Pa. This article has been adapted from a paper presented at the Annual Foremen and Supervisors Training Course of the Western Pennsylvania Safety Council, November, 1950.*

stance became seriously ill, some fatally, as a result of exposure to carbon tetrachloride fumes. Further knowledge of the toxicity of carbon tetrachloride was derived from its medicinal applications as an anesthetic and a treatment for worm infestations.

Investigation has shown that, up to a certain level, the ill-effects of some poisons can be thrown off by the human body without serious damage to the individual exposed. This level varies according to certain definite factors such as the type of substance involved, the repetition of exposure, the route of absorption, and the length of time over which the offending agent has an opportunity to act. In the case of carbon tetrachloride, experience has shown that concentrations up to 50 parts per million parts of air can be tolerated by the normal human system for an 8-hour continuous exposure without producing any detectable ill-effects. When this amount is exceeded, the surplus produces harmful results in direct proportion to the increased concentration and the duration and frequency of the exposure.

Poisoning by carbon tetrachloride in industry may be either acute or chronic. Acute poisoning is the direct result of inhalation of toxic vapors or absorption of the liquid solvent through the skin in large quantities. The chronic type is the result of inhalation or absorption of carbon tetrachloride in smaller quantities but over a longer period of time. In order to demonstrate how poisoning by carbon tetrachloride occurs, let us refer to the illustration of the human body.

Once carbon tetrachloride enters the body it is picked up by the blood stream and distributed to the various internal organs. Since carbon tetrachloride is an excellent solvent for oils and greases, it is natural that it should attack those body organs which contain fatty substance in greatest abundance. These are the brain, liver, kidney, and bone marrow. These organs absorb most of the carbon tetrachloride brought to them by the blood stream. Not all of the substance is absorbed by these organs, however, and the remainder is stored in the subcutaneous body fat which serves as a reservoir for the toxic material. In those cases where poisoning results from skin absorption the carbon tetrachloride makes its way first to the subcutaneous fat and from there it is distributed throughout the body by means of the circulating blood.

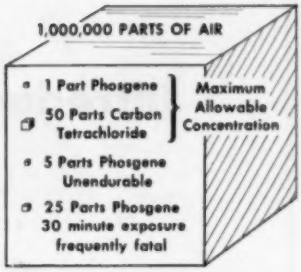

1,000,000 PARTS OF AIR
1 Part Phosgene
50 Parts Carbon Tetrachloride
Maximum Allowable Concentration
5 Parts Phosgene Unendurable
25 Parts Phosgene 30 minute exposure frequently fatal

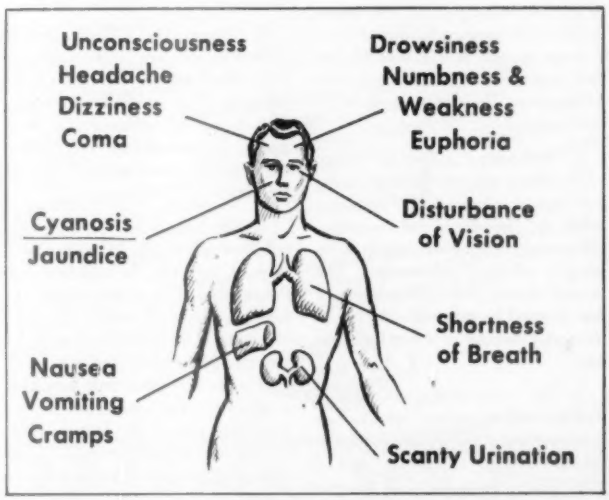
Chart showing maximum allowable concentration of phosgene and dangerous amounts.

Acute Poisoning

Available data reveal that acute poisoning by carbon tetrachloride occurs relatively infrequently from industrial exposures. When it does occur, the poisoning is invariably due to short exposures to very high concentrations. Since acute poisoning reveals its presence by various body symptoms, let us consider what those symptoms are in relationship to the different parts of the body. The most immediate effect of acute poisoning is on the brain, due to a narcotic action. This action results in headache, dizziness, exaggerated state of well-being; followed later by a feeling of drowsiness and finally unconsciousness. Numbness and weakness of the arms and legs is a common symptom. This is due to the toxic action of the carbon tetrachloride on that portion of the brain which controls the extremities.

Acute poisoning can result when a person is exposed to 5,000 ppm for 5 minutes or more. Longer exposures to this concentration or short exposures to concentrations in excess of 24,000 parts per million frequently result in delayed fatality. In these cases, the previously mentioned symptoms are followed in one or two days by nausea, vomiting, fever, visual disturbances, abdominal cramps, cyanosis, jaundice, scanty urination, shortness of breath and

—*To page 87*



Symptoms of carbon tetrachloride poisoning and parts of body affected.

DATA SHEET D-GEN. 45

Introduction to Radioisotopes

Published by National Safety Council
425 North Michigan Avenue, Chicago 11

1. The atomic energy industry in the United States has developed into a vast enterprise employing thousands of workers. The splendid health and safety record of the war years has been maintained to the present, but many who are concerned with the prevention of occupational accidents and disease are apprehensive that the rigid controls adopted for the protection of personnel in the great centers of atomic research and production will be difficult to maintain as the use of radioactive substances becomes more widespread in industry, education, research, and medicine.

2. There is a widespread belief that the present excellent safety record is the result of well disciplined, expertly directed programs which are possible only in the large centers of nuclear industry.

3. Mindful of the currently expanding use of radioisotopes and possibilities of nuclear power utilization, the U. S. Atomic Energy Commission is asked repeatedly if the use of radioactive materials can be integrated safely into industry.

4. Radioactive materials and radiation phenomena have been utilized in industry for many years. Unfortunately, in the early part of this century, the hazards involved in the use of these materials were not anticipated, and there were injuries and deaths associated with the first industrial utilizations of both X-rays and radium.

5. Thirty years ago, industrial employees, research workers, and physicians alike suffered grave injury because the effects of radiant energy were not understood and therefore no safeguards were provided.

This Data Sheet is one of a series published by National Safety Council. It is a compilation of experience from many sources. It should not be assumed that it includes every acceptable procedure in its field. It must not be confused with American Standard Safety codes; federal laws; insurance requirements; state laws, rules and regulations, and municipal ordinances. Reprints of Data Sheets are available from the National Safety Council.

6. In contrast, several hundred grams of radium, a huge amount of radioactivity even in this atomic era, were used in luminous compounds during World War II, but this time with simple, effective precautions for the protection of the workers.

7. Similarly, industrial X-ray and radiographic techniques have for many years been routinely used in hundreds of machine shops and foundries, again with simple, effective precautions. The record shows clearly that industry has learned to use, with safety, X-rays and radium in a routine manner.

8. The more widespread use of radioactive materials which has resulted from the development of atomic energy affects the industrial health scene, not by posing significantly new problems, but rather by extending the scope of the old.

9. Atomic power, except on an experimental basis, may be five, ten, fifteen or more years away, but radioisotopes are already here in abundant supply. These tools for scientific and industrial research are now available as pile produced isotopes in quantities that were undreamed of only a few years ago when they could be produced only in minute quantities and at tremendous cost by cyclotron bombardment.

10. The Oak Ridge pile produced over 200 millicuries of Carbon 14 in a few weeks, at an operating cost of about $10,000 (approximately $50 per millicurie). This isotope, if cyclotron produced, would cost perhaps $500,000 per millicurie.

11. Over 100 pile produced radioisotopes are now available from the Isotopes Branch of the AEC. By May 1950 they had been distributed in over 12,213 shipments, to several hundred institutions in 42 states and 27 foreign countries.

12. Radioisotopes are not distributed until the Isotopes Division of the AEC is satisfied that the applicant is able to use the isotope without hazard. The kind of work to be performed must be described in detail, and the applicant must have the basic facilities, equipment, and personnel to assure safe use of the isotope. This review of all applications by specialists in radiological safety is a

—To page 64

With Water Tank and Vacuum for Rug Scrubbing

With Dispenser for Hot Waxing

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Interchangeable Brushes, Pads, Sanding Disc

Wire Brushes

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Steel-Wool Pad

Sanding Disc

THE *Multiple-Purpose*
FLOOR-MAINTENANCE MACHINE THAT'S

Two Sizes in One!

Here is a floor-maintenance machine that not only can be used for many types of floor care, but also affords the further economy of a machine that is two sizes in one. This *100 Series Finnell*, in one of the larger sizes as shown above at left, can be reduced to the small size unit shown in circle.

Note the low, trailer-type construction of the machine, and how easily it goes beneath furnishings. Thus it is ideal for use in crowded areas. In fact, the dual size feature and low construction of the machine adapt it to use on many floors otherwise inaccessible to machine care.

As easy to handle as a household vacuum cleaner, yet this *Finnell* is powerful . . . fast . . . and thorough. Mounts a G. E. Drip-Proof Capacitor Motor . . . is equipped with Timken Bearings. And the ruggedly constructed worm drive, housed in an extra-capacity leak-proof gear case, lubricated for 1500 hours, assures smooth, noiseless performance. A precision product throughout. Three sizes: 13, 15, and 18-inch brush diameter.

For consultation, demonstration, or literature, phone or write nearest *Finnell* branch or Finnell System, Inc., 2206 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

FINNELL

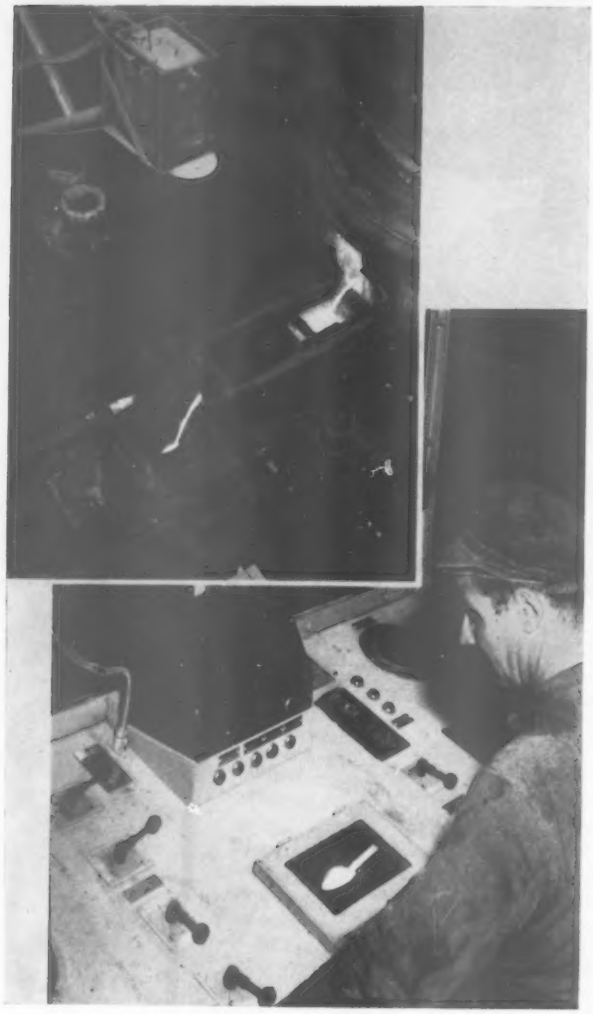
FINNELL SYSTEM, INC.

Pioneers and Specialists in

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

Watching in Safety and Comfort



WHEREVER industrial processes must be watched closely, and it is too dangerous, too difficult, too inconvenient, too expensive, too inaccessible, too tiring, too hot, too cold, too high, too low, too dark or too small to see directly, there is a possible application for wired television.

Wired television, which transmits by wire instead of by broadcast, permits remote control from a safe, comfortable spot. Camera and viewing screen are connected by coaxial cable. In the continuous casting of steel billets, the pouring operation is extremely critical. To get sound billets, without spongy spots or air inclusion, the mold must always be kept filled to a certain level.

Formerly it was necessary to station a man directly at the mold top to watch the pouring, ready to signal the operator 50 feet away. There was always the possibility of a misunderstanding, the hazard was high, and the discomfort from radiant heat made the job unbearable for very long periods.

The accompanying illustration shows an installation of wired television at the Babcock and Wilcox Tube Company at Beaver Falls, Pa. A long-focus camera is suspended above the molten metal surface in the mold. It transmits an exact and continuous picture of the molten metal level to the viewing screen in the control panel. Here the operator watches the pouring at close range, and in safety and comfort.

This device, known as the "Utiliscope," was built by the Diamond Power Specialty Company, Lancaster, Ohio.

A-Bomb Preparedness

Chances for A-Bomb attack on plants outside metropolitan areas are remote, Horatio Bond, Boston Chief Engineer, National Fire Protection Association, told the 55th Annual Meeting of the Association. Bond said that the "kind of attack that makes the most sense from the enemy's point of view is a one-shot surprise attack in an attempt to knock out our principal centers of production.

Bond said: "One of the most important lessons of the last war was that fires were fought principally with water that was actually stored at the property on fire and advised all new buildings be equipped with automatic sprinklers with a primary water supply from a gravity tank."

About the controversial subject of bomb shelters Bond said: "They should not be recommended until the possibility of attack on any individual plant had been much more clearly defined." He said that each plant should study the construction of its buildings for safest areas and pointed out that central corridors of fire-resistive buildings are often one of the safest locations available.

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Employers Mutuals write: Workmen's Compensation—Public Liability—Automobile—Group Health and Accident—Burglary—Plate Glass—Fidelity Bonds—and other Casualty Insurance. Fire—Extended Coverage—Inland Marine—and allied lines. All policies are nonassessable.

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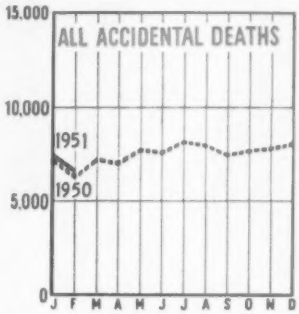
THE ACCIDENT BAROMETER

Prepared by Statistical Division, National Safety Council

Accidental deaths in February totalled approximately 6,600, an increase of 5 per cent over the death total for February, 1950. Most of the increase occurred in public non-motor-vehicle fatalities, but deaths from occupational and motor-vehicle accidents also were more numerous. Home accident fatalities numbered about the same as last year.

The total for the two months was 14,400, an increase of 7 per cent over last year's comparable total of 13,500. Increases were recorded in all classes with the largest change recorded in deaths from motor-vehicle accidents.



	1951	1950	Change
February	6,600	6,300	+5%
Two Months	14,400	13,500	+7%

Motor-Vehicle Deaths

The February total of motor-vehicle deaths was 2,300, an increase of 4 per cent over February last year. Compared to 1949, it was an increase of 17 per cent.

Deaths for the two months totalled 5,190, an increase of 11 per cent over the 1950 total of 4,680. The two-month death rate per 100,000,000 vehicle miles was 7.3, an increase of 1 per cent over the 1950 rate of 7.2.

Of the 42 states reporting for two months, 11 had fewer deaths than in 1950, 1 had the same number, and 30 had more deaths. Reporting cities with populations over 10,000 had a reduction of 2 per cent in February, but an increase of 3 per cent for the first two months.

Regional changes from 1950 in the two-month death totals were:

North Atlantic	+ 3%
South Atlantic	+ 9%
North Central	+ 6%
South Central	+ 7%
Mountain	+25%
Pacific	+38%

Occupational Accidents

Deaths from occupational accidents numbered approximately 1,300 in February, an increase of 100 deaths over February last year. The two-month death total was about 2,800, an increase of 8 per cent over 2,600 in 1950.

The February frequency rate per million man-hours in seven sectional accident prevention contests conducted by the National Safety Council was 7.06, an increase of 3 per cent from last year. The two-month rate was 6.98, a reduction of 2 per cent. The February rate for community council inter-plant contests was 7.99, a decrease of 2 per cent from February, 1950. The two-month rate was 8.30, an increase of 3 per cent over 1950.

Public Deaths

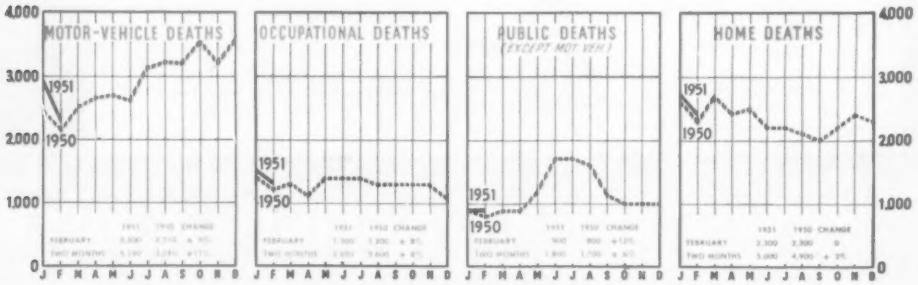
There were approximately 900 deaths from public non-motor-vehicle accidents in February, or 13 per cent more than in February last year.

Deaths during the two months numbered about 1,800, an increase of 6 per cent over 1,700 in 1950. Most of the increase occurred in deaths from unclassified public accidents, but deaths from firearms accidents also were more numerous. Fatal burns and drownings showed decreases from last year. Increases in deaths were reported for children under 15 years and for persons 15 to 24 years and 45 to 64 years of age.

Home Deaths

February deaths from home accidents totalled approximately the same as in 1950—2,300.

The two-month death total was 5,000, an increase of 2 per cent over last year. Moderate increases in deaths from poisonings and burns were partially offset by a sizable decrease in fatal falls. Deaths of children under 5 years and persons 25 to 44 years of age were more numerous than last year. Small decreases were reported in all other age groups with the greatest improvement recorded for persons 45 to 64 years of age.



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If you could put your finger on any one reason for the growing acceptance of Iron Age safety shoes it would be *eye-appealing* style. This, plus in-built comfort and exceptional wearability, has induced more and more safety directors to stock from the complete Iron Age line. If you are looking for sales-impelling safety shoes . . . shoes that will reflect credit on your judgment and boost your coverage, then order from the Iron Age catalog. Write for your copy today.

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FOR OIL AND HEAT RESISTANCE

A brown oil tan blucher. No. 636 is the fastest selling steel toe work shoe in the Iron Age line. It is made with an oil and heat resistant Neo-Cord sole. Has full leather middle sole, is reinforced at all points and carries a one-piece seamless back. *An outstanding value!*

No. 636
C 5-14 E 5-14
D 5-14 EEE 5-14

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No. 614 is a chestnut brown oxford. It is made on the highly popular moccasin oxford pattern. Both woven vamp and shoe lining are perforated for cool comfort. The stitching is bold and decorative. This steel toe shoe is built on the firm platform of a Neolite sole, famous for long wear, non-skid safety and foot ease.

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SAFETY SHOES

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The Safety Shoe for Industrial America

Iron Age DIVISION
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Safety in Numbers

—From page 19

disabled for indefinite periods by accidents or disease.

One reason for the continued rise in the number of traffic deaths —and it doubtless applies to the accident situation in general—is that the mounting demands of civil and national defense are overshadowing the importance of safety activities. On the other hand, war strains and tensions tends to aggravate normal habits of carelessness. What makes the traffic situation even more difficult to cope with is the fact that our control forces— police and others —are being depleted as more and more of them are called into military service or go into defense industries with their more lucrative pay.

Top-level government officials including the President of the United States, have stated publicly that safety is an integral part of the defense program. Nevertheless we may very well break all previous accident records in the next year or two, unless we draft safety as part of the mobilization effort. The job of maintaining the accident-prevention program at full effectiveness will tax the ingenuity and combined efforts of safety engineers and traffic experts throughout the country.

In the industrial field, the striking thing is that twice as many fatalities occur among workers off-the-job as in the plant. Of a total of 49,500 worker deaths in accidents last year, 34,000 happened away from work. Nothing could better illustrate the basic relationships between the various areas of safety. The object lesson here is that from the standpoint of production, neither management nor the safety engineer can afford to terminate their concern for worker safety at the factory gate.

Off-the-job accidents are costly both in point of reduced output and lowered morale. Let's take a look at an example. A drop-hammer operator from a forge shop broke his leg in an automobile crash on his way to a ball game. He was away from work for six weeks. An inexperienced man put on his job not only turned out a smaller amount of work, but his lack of know-how resulted in considerable expense for repair of the die faces he ruined.

To achieve substantial results in an off-the-job safety program, the industrial safety engineer should exchange ideas with, and seek the full cooperation of specialists in other fields of safety—educators, traffic experts, etc.

By the same token, the effects of traffic accidents are ramified throughout the whole pattern of our social and economic life. I have already alluded to some of the costs of motor-vehicle accidents. Actually, they add about 10 per cent to the over-all cost of highway transport.

Because industry is so vitally dependent upon motor transportation, it has an enormous stake in highway safety, quite apart from the off-the-job welfare of industrial employees. There are now some eight and a half million trucks in use in the United States. Trucks carry 75 per cent of the nation's freight tonnage (in tons, not in miles).

Commercial Fleet Progress

The commercial fleet operators, once decidedly skeptical about the value of accident prevention programs, have become one of the most progressive groups in the nation in the field. It was the grim element of mounting accident costs, plus climbing insurance rates, that reversed their attitude. Many of them have sent their key personnel to the fleet supervisor training courses, which because of the interest shown are now held annually in over 30 universities and colleges.

Home safety influences and is interrelated with the other branches of accident prevention. Safety, like charity, must begin at home. The example set by informed and intelligent parents within the family circle is the greatest single force we have in our fight against accidents. A serious accident to one member of a family can disrupt an entire household.

All Areas Benefit

Safety is indivisible, and prevention effort in one area is bound to benefit all others directly or indirectly. Safety education in the schools, for instance, helps to build an attitude and philosophy of "safe living" that can carry over through lifetime pursuits and careers. The same goes for adult safety education, such as driver schools and first-aid classes. First-aid instruction developed in industry has done a great deal to focus public attention on accident prevention. It is a strong bond between normal civilian safety and the civil defense program.

Something new must be added to the safety movement if we are to bring about a revival of public interest, and are to arouse people to the urgent need for curtailing the shameful accident losses that are hampering the defense effort.

As a first step we must eliminate the iron curtains to mutual understanding that so often exist between the professionals in safety—the engineers and technical specialists—and the great mass of citizens. Safety is the responsibility of everyone.

Second, we must remove the barriers between the various groups of safety and traffic experts themselves. There is no room for clannishness when our basic objective is the same. Our efforts will thrive best through coordination. There must be a continuous exchange of ideas, consultation and cooperation between all elements. We can benefit mutually

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Green Cross News . . .

Activities of Local Safety Councils and Chapters

Compiled by TOM A. BURKE
Director of Local Safety Programs, Field Organization, NSC

Regional Conferences

Enthusiastic reports on programs, attendance and general interest are reaching Chicago headquarters from many cities where regional conferences have been conducted this spring.

New York—The Greater New York Safety Council reports that the Greater New York Safety Conference and Exposition was "the best ever." Attendance exceeded expectations and the machinery for conducting the huge conference ran perfectly throughout the four-day session, according to Paul F. Stricker, executive vice president. The Conference was held April 3-6.

Connecticut—The Connecticut Safety Society held its Sixth Annual Industrial Safety Conference on April 26 at Bridgeport and featured sessions on plant protection and civilian defense. Lincoln H. Lippincott, manager of the New Haven Safety Council is president of the Society. Gov. John D. Lodge was the banquet speaker.

Massachusetts—The Thirtieth Annual Safety Conference of the Massachusetts Safety Council was attended by approximately 2000 persons during the two-days of the meeting. There were 28 sessions and well known authorities in various fields of safety were the speakers. Some new products in the exhibition caused considerable interest.

West Virginia—The Seventeenth Annual State-Wide Safety Conference sponsored by the West Virginia Safety Council, Inc., and cooperating organizations, drew the largest attendance in the Conference history at a recent meeting held April 18-20 in Charleston. State and federal agencies participated in the conference. H. V. Diefenbach, general manager of Station WGKV, is president of the reorganized West Virginia Safety Council and Arch J. Alexander, chief of the West Virginia Department of Mines is first vice president. He served as general chairman of the conference. The board of directors was strengthened recently through the addition of 20 leading industrialists and officials from all parts of the state. A special finance committee is now planning to raise a $25,000 budget.

Northeastern Indiana—A program aimed at plant security and civilian defense brought out a large attendance at the Northeastern Indiana Safety Conference and Exhibition, sponsored by the Industrial Safety Committee of the Fort Wayne Chamber of Commerce. Features included "The Atomic Bomb and Fort Wayne," a discussion by C. M. Sumners, works laboratory engineer of Fort Wayne General Electric Works, and "The Importance of Safety in Peace or War," a talk by E. C. Liedke of International Harvester, Chicago.

Central States—Approximately three thousand persons attended the Central States Safety Conference held in Kansas City's Municipal Auditorium, April 19-21. Ned H. Dearborn, president of the NSC, was the keynote speaker. Subjects discussed at sessions included grain and elevator, meat packing, construction, small plants, petroleum, railroads, public utility, women's activities, metal, child safety, traffic, commercial vehicle and management-labor. The Kansas City Safety Council and cooperating organizations sponsored the conference.

Industrial Progress

The annual report of the Kalamazoo Safety Council indicates that industrial accident rates in the Kalamazoo area have been cut approximately in half since the local Safety Council was organized in 1947; and that no industrial accident fatalities have occurred among employees of member companies since the council's organization. Earl F. Campbell, manager, Field Organization, NSC, was the featured speaker at the annual banquet of the council on April 26 in that city. Robert A. Wasson of Clarage Fan Company, is president, and E. M. Gearhart, Jr., formerly of the NSC staff, is manager of the Council.

For Official Support

Permissive legislation for financial support to local safety councils and chapters from County Boards of Supervisors has been introduced in the California Legislature. Companion bills were introduced late in January in both the Assembly and the Senate, receiving good backing from all interested parties. Safety council representatives have been asked to appear before the Committee on Governmental Efficiency to testify in behalf of these bills.

Field Organization

The NSC Field Organization staff is currently working on organization of new safety councils, reorganization and expansion programs in the following cities and states: Chattanooga, Greater Chi-

two negligence suits every week would give YOU NIGHTMARES too—

The management of a prominent department store was at its wits' end.

Shoppers were slipping and falling on the floors every day and liability claims piled up at the rate of two a week. Then someone suggested calling Legge.

When the Legge System of Safety Floor Maintenance was instituted, all claims ceased. This is no isolated instance. Our files contain many case histories of serious accident hazards in plants, buildings and institutions which were eliminated by the Legge System.

Aside from their *slip-resistant* properties—certified by repeated Underwriters' Laboratories tests—Legge safety floor cleaners and polishes dress up a floor like a million dollars, restore its natural beauty, add years to its life expectancy.

Don't for a minute think that this is just advertising talk. We ask you to accept nothing on faith. Legge Safety Engineers—*without extra cost*—will conduct an on-the-spot examination of your floor. In the light of their findings as to its composition, condition and the traffic it has to withstand, they will recommend the *proper* plan for its reconditioning—at the same time laying out a simple program for *economical* upkeep. Further, they will instruct and supervise your crews in the efficient use of Legge materials.

There are enough nightmares in building management without worrying about floor hazards and maintenance. For peace of mind, clip the coupon to your letterhead and mail it today for a *free* copy of a booklet on scientific floor care. There's no obligation whatever. You will find it an eye-opener. WALTER G. LEGGE COMPANY, INC., New York 17, N. Y. Branch offices in principal cities. In Toronto—J. W. Turner Company.

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LEGGE SYSTEM
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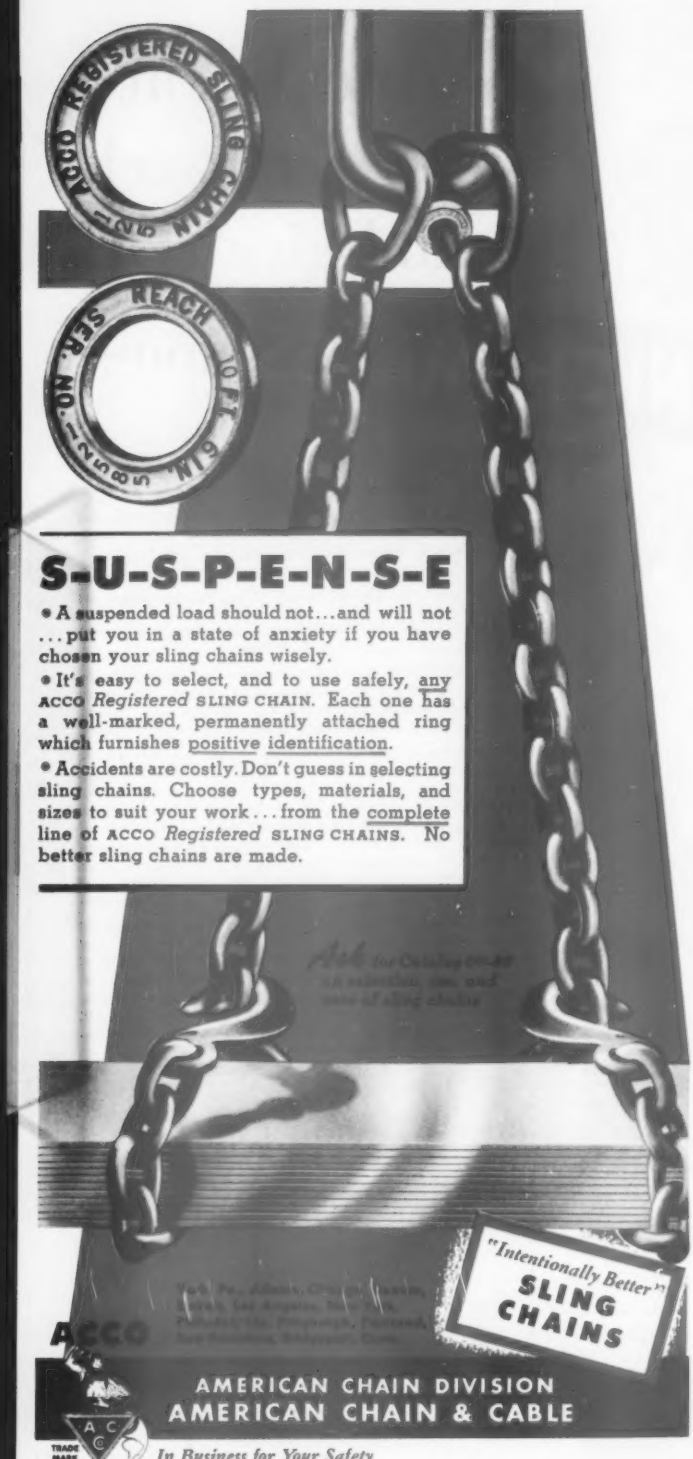
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cago, Elkhart, Ind., Fresno, Calif., Muncie, Ind., New Orleans, Omaha, Ottuma, Ia., San Diego, and Youngstown, Ohio. States include Florida, Georgia, Louisiana, Montana, Tennessee, Washington and West Virginia.

Theaters Help Safety

The Affiliated Theaters, Inc., in opening the new "Terrace Theater," the first drive-in theater in the city and county of San Francisco, has arranged to give the entire proceeds of opening night to the San Francisco Chapter. This will mean a big addition to the Chapter's budget and is indicative of the fine interest of the motion picture people in community safety.

Safety Psychology

The Industrial Safety Section of the Greater Cleveland Safety Council is co-sponsoring with the Northern Ohio Chapter of the American Society of Safety Engineers, a three-session course on Safety Psychology to be conducted by Dr. Walter A. Cutter, assistant director, Center for Safety Education, New York University, New York. The course will consist of three main topics: "Safety For Self," "Safety For Others," and "The Greater Safety" which points the way to avoiding one of the worst "accidents" of modern times, the loss of *freedom*. Topical outlines of the discussions will be provided.

Green Cross Brochure

An attractive "Annual Accident Report" published recently by the San Francisco Chapter has also served as an effective mailing piece for the chapter's annual Green Cross campaign. It is a progress report that shows big gains in accident prevention in several fields in San Francisco during the past five years. The booklet also lists 40 activities carried on by the chapter last year. It is excellent sales argument for community support.

Green Cross Festival

Because of the popularity of the Green Cross Festival series of weekly musical programs by a cappella choirs in NSC Chapter communities, the series has been continued for four weeks with the following cities participating: Wilmington, Del., May 26; Spokane,

Wash., June 2; San Francisco, Calif., June 9; and Oklahoma City, Okla., June 16. Ninety-two stations are now carrying the program. The Kansas City concert heard over the network on March 31 was one that received particularly enthusiastic response. It was presented by the Southeast Choir and featured the appearance of a high school student as announcer. H. M. Johnson, chief of police, and George M. Burns, director of the Kansas City Safety Council spoke briefly on the program.

Western Conference

The Thirteenth Annual Western Safety Conference will be held at the New House Hotel in Salt Lake City June 21-22-23. Indications point to a record attendance from all eleven states served by the NSC Western Regional Office. Sessions include seven special industrial programs, traffic and home programs, a women's meeting, and a formal reception for all delegates at the Governor's mansion. A safety parade will feature the closing day's program, followed by a barbecue and "Canyon Party" at famous Millcreek Canyon.

Delaware Industrial Interest

A recent Industrial Supervisors' Course sponsored by the Wilmington Board of Education and the Engineering Section of the Delaware Safety Council was planned originally as an eight week course with one session one night each week. An unexpectedly high enrollment made it necessary to conduct the series on a four nights per week basis. Features included one program on management-employee teamwork. Outlines of each lecture were provided, along with a copy of the "Industrial Supervisor." The State Department of Public Instruction is giving a certificate of completion to those who pass the final examination, provided they have attended at least six of the eight sessions.

Class Reunion — Mixing old grad with Old Grandad.—*Purdue Engineer*

Motorist: I ran over your cat and I want to replace him.

Housewife: Well, get busy! There's a mouse in the pantry.

An informative discussion of dry chemical fire extinguishing agents with particular emphasis on factors responsible for quality and dependability. . . . . by

Arthur B. Guise
Chief Engineer
Fire Extinguisher Division
ANSUL CHEMICAL COMPANY

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CONTROLLED QUALITY FOR CONSISTENT DEPENDABILITY

Your extinguishers can fail to operate when you need them most . . . or operate with less than maximum effectiveness and fail to extinguish the fire . . . unless properly maintained and charged with dependable first quality extinguishing agents.

This is equally true of dry chemical fire extinguishers. Ansul *"PLUS-FIFTY"* Dry Chemical is produced under carefully controlled conditions to meet specific requirements. *This means that every container of Ansul Dry Chemical has the same uniform high quality.* Ansul Extinguishers are designed for use with Ansul Dry Chemical only and, if consistent high fire extinguishing effectiveness is to be obtained, Ansul Dry Chemical should be used for recharge purposes.

There are a number of factors influencing dry chemical quality and all must be controlled because variations in a dry chemical can affect its fire extinguishing effectiveness.

PARTICLE SIZE. The sodium bicarbonate in Ansul Dry Chemical must pass tests to insure that the size of the particles falls into a certain range. If a certain percentage of the particles are over a maximum given size, the fire extinguishing effectiveness of the dry chemical is measurably decreased. Ansul's quality control procedures insure that the fire extinguishing effectiveness is always high.

MOISTURE REPELLENCY. The materials and methods used to produce water repellency in the finished dry chemical directly affect its flow and packing characteristics and electrical resistivity. All dry chemicals will absorb moisture when exposed to highly humid atmospheres. Excessive moisture absorption causes caking of dry chemical and resultant failure of the extinguisher to operate. Ansul Extinguishers and shipping containers for dry chemical are weather-proofed to minimize the possibility of moisture absorption . . . and Ansul provides a further safeguard by furnishing a dry chemical which *can absorb four times more moisture than ordinary dry chemicals* without harmful effects to any of its characteristics.

FLOW. Ansul Extinguishers are designed to discharge dry chemical at a definite rate. Quality control during the manufacturing operation insures that Ansul *"PLUS-FIFTY"* Dry Chemical will flow at a sufficiently high rate to insure maximum fire fighting effectiveness.

MODEL 20-B

PACKING. *All* finely divided solids tend to pack. Dry chemical is no exception. Daily tests of Ansul *"PLUS-FIFTY"* Dry Chemical as it is produced insure that every batch will fluidize readily. Proper design of Ansul Extinguishers doubly insures fluidizing of dry chemical and proper, effective, discharge.

ELECTRICAL RESISTIVITY. Ansul *"PLUS-FIFTY"* Dry Chemical has an electrical resistivity of 1000 megohms. Frequent tests are made to insure that all Ansul Dry Chemical is equally resistive and always safe to use on electrical fires. Again, Ansul Dry Chemical can absorb four times more moisture than ordinary dry chemicals without impairing its electrical resistivity.

SUMMARY. Ansul's Engineering and Research Departments have developed specifications and tests to control particle size, moisture repellency, flow and packing characteristics. Last year 3500 flow tests were conducted on Ansul Dry Chemical to assure uniformly high quality of the manufactured product. You are assured of consistently high quality and maximum dependability with Ansul *"PLUS-FIFTY"* Dry Chemical.

Send for your copy of File No. 586. You will receive additional technical information on dry chemical. Also included is printed material describing Ansul's complete line of Dry Chemical Fire Extinguishing Equipment.

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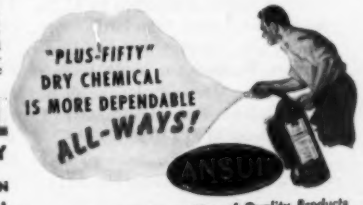

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BOOKS AND PAMPHLETS

Aeronautics

Safety Standards for Low Pressure Chambers under Variable Temperature Conditions. Published by Aircraft Industries Association, 610 Shoreham Building, Washington 5, D. C. 1950. 23 p. Free. (Technical Series—ATC Report No. ARTC-1)

Boilers

American Standard Requirements for Installation of Gas Equipment in Large Boilers. Published by American Gas Association, Inc., 420 Lexington Avenue, New York 17, N. Y. 1950. 17 p. Single copy free. (ASA Z21.33)

Chemicals

Hydrochloric Acid, Aqueous and Hydrogen Chloride, Anhydrous. Published by Manufacturing Chemists' Association, Inc., 246 Woodward Building, Washington 5, D. C. 1951. 27 p. Price 35c. (Chemical Safety Data Sheet SD-39)

Ethylene Oxide. Published by Manufacturing Chemists' Association, Inc., 246 Woodward Building, Washington 5, D.C. 1951. 18 p. Price 35c. (Chemical Safety Data Sheet SD-38)

Civil Defense

Principles of Plant Protection. Published by Military and Civil Defense, Commission for Pennsylvania, 201 South Office Building, Harrisburg, Pa., 1950. 65 p. Single copy free.

Conferences

President's Conference on Industrial Safety. Published by U. S. Bureau of Labor Standards. For sale by the Superintendent of Documents, Washington 25, D. C.

Progress Meeting. 1950. 89 p. 25c. (Bulletin No. 130) Reports of Committees—1949-1950.

Accident Records, Analysis and Use. 27 p. 15c. (Bulletin No. 131).

Education. 67 p. 25c. (Bulletin No. 132).

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Labor-Management Cooperation for Safety. 10 p. 10c. (Bulletin No. 136).

Programs and Services. 32 p. 15c. (Bulletin No. 137).

Health

Industrial Health and Medical Programs. By Margaret C. Klem and others. Published by Public Health Service. 1951. 397 p. For sale by the Superintendent of Documents, Washington 25, D.C. Price $1.00. (P.H.S. Publication No. 15).

Safety and Health Standards for Contractors Performing Federal Supply Contracts under the Walsh-Healey Public Contracts Act. Published by U. S. Bureau of Labor Standards, Washington 25, D. C. 1951 revision. 23 p. Free.

Small Plant Health Programs. A Bibliography. Published by Public Health Service, Washington 25, D. C. 1951. 26 p. Free. (PHS Publication No. 3).

Hospitals

Safety First. Published by Association of California Hospitals, 26 O'Farrell St., San Francisco, Calif. 1951. 15 p.

Liquified Petroleum

Standards for the Storage and Handling of Liquified Petroleum Gases. Published by National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass. 49 p. 1951. Cost 35c. (NFPA No. 58).

Marine Industry

Injuries to Crewmen in Inland Waterways. Published by U. S. Bureau of Labor Statistics. 1951. 25 p. For sale by the Superintendent of Documents, Washington 25, D. C. Price 20c. (Special Series No. 5).

Tanks

Cleaning Mobile Tanks Used for Transportation of Flammable Liquids. Published by American Petroleum Institute, 50 West 50th Street, New York 20, N. Y. 1951. Price 25c. (Accident Prevention Manual No. 13).

Textile Industry

Safety of Workers in the Textile Industry. Published by International Labor Office. Available from I.L.O., 1825 Jefferson Place, Washington 6, D.C. 1950. 46 p. Price 25c. (Report III).

Trucks

Standard for Power-Operated Industrial Truck (electric battery-powered and gasoline-powered). Published by Underwriters Laboratories, Inc., 207 East Ohio Street, Chicago 11. 1951 edition. 39 p. Free.

MAGAZINE ARTICLES

Boilers

Safety and Automatic Combustion Control. By F. A. Westbrook. (In Power, April 1951, p. 112).

Civil Defense

Chicago "Atom-Bombed" During Test of Civil Defense Plan. By Paul C. Ditzel. (In Fire Engineering, April 1951, p. 267).

Industrial Disaster Control. By T. Ralph Leadbeater. (In Supervision, April 1951, p. 17).

Diesel Engines

Tips on Guarding Engine Lubrications. By Edgar J. Kates. (In Power, April 1951, p. 80).

Fire Protection

Fire Protection for Indoor Unattended Substations. By H. P. Sleeper. (In Electric Light and Power, March 1951, p. 90).

Foremen

Did I Cause the Accident? By Alvin Taten. (In Southern Pulp and Paper Manufacturer, April 15, 1951, p. 18).

Health

Hazards of Shoe-Fitting Fluoroscopes. By Willard W. Van Allen (In Public Health Reports, March 23, 1951, p. 375).

Historical Sketch of Radiation Protection Experience and Increas-

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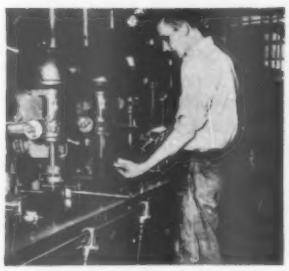

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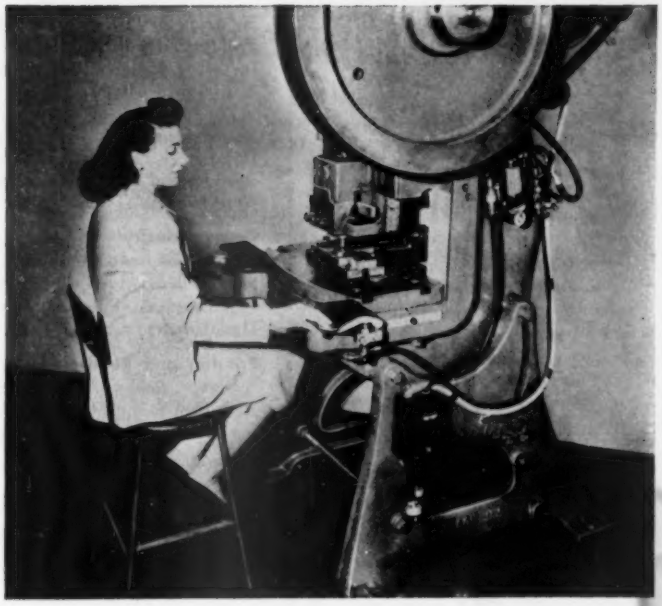

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ing Scope of Radiation Protection Problems. By K. Z. Morgan. (In Industrial Medicine and Surgery, April 1951, p. 148).

The Relation of Nutrition to Susceptibility to Toxic Substances. By Maurice E. Shils. (In American Journal of Public Health, April 1951. p. 417).

Paper Industry

Safety as Practiced in the Container Plants. By G. J. Bienvenu. (In Southern Pulp and Paper Manufacturer, April 1951, p. 24).

Printing and Publishing

Gather Books, Not Accidents. By Lillian Stemp. (In Book Binding and Book Publishing, April 1951, p. 47).

Public Utilities

New Safety Honors for Ohio Fuel. (In American Gas Association Monthly, April 1951, p. 7).

Rubber Industry

A Safety Device for Use with Laboratory-Size Rubber Mills. By A. J. Poynton. (In Rubber Age, March 1951, p. 707).

Women in Industry

Supervision of Women in Industry. By Henry A. Ford. (In Personnel Journal, April 1951, p. 421).

The cumulative index to vol. 62, NATIONAL SAFETY NEWS, July-December, 1950, is now available. It may be secured by writing to the National Safety Council, 425 N. Michigan Ave., Chicago 11.

COMING EVENTS

In the Field of Safety

June 4-7, Chicago

Twenty-eighth Annual Midwest Safety Conference. (Congress Hotel). Joseph F. Stech, manager, Greater Chicago Safety Council, 10 N. Clark St., Chicago 2.

June 11-12, Bismarck, N.D.

Fourth Annual North Dakota Safety Conference. Paul Drew, conference chairman, c/o Department of Safety, North Dakota Workmen's Compensation Bureau, State Capitol Building, Bismarck, N. D.

June 21-23, Salt Lake City

Thirteenth Annual Western States Safety Conference. Clarence Williams, executive director, Utah Safety Council, State Capitol Bldg., Salt Lake City, Utah.

Sept. 6-7, York Harbor, Me.

Twenty-fourth Annual Maine Safety Conference. Arthur F. Minchin, director, Industrial Safety Division, Department of Labor and Industry, Augusta, Me.

Sept. 18-20, Cleveland

Ohio State Safety Conference (Hotel Carter). Carl L. Smith, Executive Vice-President, Ohio State Safety Council, 2073 E. 9th St., Cleveland 15.

Oct. 8-12, Chicago

Thirty-ninth National Safety Congress and Exposition. (Stevens Hotel). R. L. Forney, general secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.

Oct. 29-Nov. 2, San Francisco

American Public Health Assn., 79th Annual Meeting. Dr. Reginald M. Atwater, executive secretary, APHA, 1790 Broadway, New York.

Second Noise Abatement Symposium Announced

The second annual National Noise Abatement Symposium to discuss and report on the noise problems will be held in Chicago on October 5 at Technology Center. The symposium will be sponsored by the Armour Research Foundation of the Illinois Institute of Technology, the National Noise Abatement Council, and other organizations.

H. A. Leedy, director of Armour Research Foundation, has been appointed chairman of the committee arranging for the symposium, George W. Handy, of Buffalo, president of the National Noise Abatement Council, stated here. Assisting Dr. Leedy are Wallace Waterfall of New York, secretary of the Acoustical Society of America, and L. F. Yerges, of Chicago, chairman of the Ordinances Committee of the Noise Abatement Council.

More than 500 authorities on noise and its control, scientists and research men, administrative heads of municipal health, police and safety departments, noise abatement committee heads and others from all parts of the country attended the symposium last year.

How Foremen Can Aid Eye Protection Program

The attitude of the forman toward safety habits will often determine the individual worker's attitude, Russell N. Crosby, supervisor of safety and claims for the Berwick, Pa., plant of the American Car and Foundry Company, explained at the annual conference of the National Society for the Prevention of Blindness.

"In too many industrial plants," Mr. Crosby said, "safety goggles are given to the employees with the remark, 'Wear these goggles at all times.'

"The individual does not know where to go for repairs or adjustments of any kind; he is allowed to live and learn the hard way. Too many times these individuals return for adjustment by way of the plant hospital. Another eye casualty can be registered because of lack of information."

When the new worker receives his safety goggles, continued Mr. Crosby, he should have his goggles adjusted by someone who understands the type of work the new worker will be required to do.

After having received a thorough eye examination and having his goggles adjusted, said Mr. Crosby, the new man is taken to his job where he comes in contact with his foreman of his department "who will be the guide of all his industrial endeavor." The foreman must not only realize that he has the responsibility to see that this man produces, but also has the responsibility of the safety and welfare of his well-being.

At this time, the foreman can either stress the importance of production alone, or he can, and should, take advantage of the opportunity to use the time with the new employee to emphasize the importance of safety within the department.

"If the foreman is well-informed concerning the safety condition of the department and the plant, he will be in a position to give the new employee an excellent safety foundation with which to work. If, on the other hand, the foreman is poorly informed or takes the attitude that production is his only responsibility or concern, the employee may take the attitude that safety is secondary and of little consequence within the department. Should this be the case, the safety inspector will have another member added to his long list of potential safety violators. . . ."

Mr. Crosby cited these other practical aspects of eye protection:

1. More stress on complete visual examination at the time of employment.
2. Follow through with at least a re-examination every two years.
3. Greater care given to adjustment of eye protective equipment.
4. Periodic eye examinations, other than the two-year examination.
5. Proper illumination.
6. Follow-through program for maintaining eye protection equipment.
7. Cooperation, understanding and education of all employees concerning care of eyes and importance of good vision.
8. Definite penalties for infractions of rules.

Full Neoprene coated, knit-wrist style used in all types of general industry. Liquid proof, curved fingers, no seams on working surface.

Full Neoprene coated, 14½" gauntlet. Special thumb reinforcement. Liquid proof, curved fingers – for all general industry.

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Nothing is more important to the buyer of any product than the reputation of its manufacturer. And that's why so many in industry today automatically buy Hood Industrial Work Gloves. They have tried them for jobs of every type and found them *better* . . . more efficient, longer wearing, extra comfortable and more durable for vital protection! Behind every pair of these more economical gloves stand more than 50 years of Hood's proven research and manufacturing skill – an enviable reputation that is your guide for quality workmanship. Perhaps neither of the two Hood gloves shown here is the answer to your problem. But if you will send for the new catalog, you will most assuredly be able to

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Industrial Health

Abstracts of current literature on Industrial Hygiene, Medicine, and Nursing

By F. A. VAN ATTA, Industrial Department, NSC

Fluorine Compounds

Toxicological and Metabolic Effects of Fluorine-Containing Compounds. By Joseph Larner, M.D. Industrial Medicine and Surgery. 19:534-539 (November, 1950).

The toxicity of compounds containing fluorine has always been of considerable interest to pharmacologists because of the very wide occurrence of the element in traced amounts. In industry it has been encountered primarily in the handling of cryolite and in the use of fluorides as pesticides. More recently the industrial development of fluorine compound has been tremendously expanded because of the demand for greases, lubricants and heating change materials chemically inert and resistant to high temperatures and high pressures.

Earlier work had indicated that fluorine was not essential to either plant or animal life, but more recently there is evidence that small amounts may be necessary.

The effects of fairly small amounts of fluoride taken into the body over a long time have been recognized in the syndrome which has been called fluorosis. The best known effects are those in the teeth which become mottled and which are destroyed by pitting and erosion if the amount taken is too large. This condition is often very widespread in regions where the drinking water is abnormally high in fluorides, above about 5 ppm. At the same time excessive fluorine intake may lead to brittleness of bones and to calcification of ligaments and tendons.

The effect of fluorides in reducing the amount of dental decay has aroused more general interest than any of its other physiological effects although this is not actually a toxic manifestation. It has also been shown that the incidence of poliomyelitis is relatively low in areas where the drinking water contains a high concentration of fluorides.

It has generally been considered in the past that organic compounds of fluorine were less toxic than the inorganic compounds. Recently several new organic fluorides have been introduced which are extremely toxic. Examples are 3-fluorotyrosine, diisopropyl fluorophosphate (1080) and fluoroacetic acid (1080).

The mechanism of action of these very toxic organic fluorides has been investigated with considerable care. Their extremely high toxicity appears to arise from the fact that they interfere with enzyme systems in the body. The diisopropylfluorophosphate is known to inhibit the action of the cholinesterase of nervous tissue. This enzyme is presumed to be important in the chemical transmission of the nervous impulse. The inhibition appears to be irreversible when once accomplished and there is some evidence that it amounts to a true chemical combination between the enzyme and the diisopropylfluorophosphate.

Fluoroacetic acid is generally believed to function as a metabolic antagonistic for acetic acid through some methanism not known. It has been shown, however, that fluoroacetic acid does prevent the oxidation of acetic acid in the organism.

In addition to these two specific instances fluorides are known to be inhibitors of a large number of enzyme systems of which the mechanism has not been worked out at all completely. It is also known that extremely low concentrations of fluorides have the opposite effect of activating the enzyme systems or, at least, as activating the enzymatic reactions.

Biological Warfare

The Potentialities of Biological Warfare Against Man—an Epidemiological Appraisal. By Alexander D. Langmuir, M. D. Public Health Reports 66:387-399 (March 30, 1951).

The Executive Office of the President has stated in the "Health Services and Special Weapons Defense" Manual that "an enemy could employ . . . biological warfare against us effectively." Since this is the official position of the Federal Government it deserves the careful consideration of every one concerned at all with civil defense.

The idea of biological warfare generally involves one or both of two concepts. It envisages the creation of clouds of pathogenic aerosols over cities or the contamination of water and food supplies by pathogenic organisms or by toxins.

There is no question of the possibility of fairly large areas of water supply by toxins if an individual with some knowledge of plumbing practices should choose to do so by sabotage. Experience with accidental and inadvertent contaminations in the course of work on water supply systems has amply demonstrated that it can be done, and it is a reasonable assumption that the results might be quite serious if a considerable quantity of a highly concentrated culture were introduced. It is also quite obvious that it would be difficult to trace down the exact source of the contamination by any known epidemiological means.

Similarly it would be possible to contaminate relatively warm and moist foods so as to produce severe epidemics among those consuming the food.

About the only known limit on the extent of such epidemics at the present time is the limited area

More and more businesses, stores, hospitals, schools and other public buildings are now using the new anti-slip waxes containing Du Pont "Ludox" colloidal silica. Tiny "Ludox" particles in floor waxes give new safety to walking.

Waxes containing "Ludox" have extra hardness. And waxes properly formulated with "Ludox" are fully equal to regular floor waxes in gloss, water-resistance, freeze-resistance and leveling. With all these advantages, you can see why waxes containing "Ludox" are specified by many safety and sanitation engineers.

There are many different formulations already available to meet the specialized needs of institutions, business and industry. New anti-slip floor waxes containing "Ludox" are continually being developed by wax manufacturers in cooperation with Du Pont research men.

Make a point of asking your wax supplier to show you how his products containing "Ludox" help solve your floor-wax problems.

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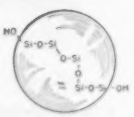
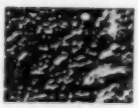
THE ACTION OF "LUDOX" IN WAXES

results from the structure of the individual colloidal silica particles. Each particle is a smooth, minute sphere—about one two-millionths of an inch in diameter. These spheres are clear and give wax films added transparency and depth of lustre.



GIVES WAX MORE HARDNESS

Each wax particle gains extra hardness by being covered with many smaller, harder "Ludox" particles distributed throughout the wax film. This is shown in the electronphotomicrograph of the surface of a wax film, magnified 25,000 times.



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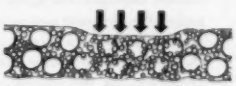
The pressure of a foot pushes the harder "Ludox" particles into the softer wax particles. The snubbing action which results makes the wax slip-resistant.



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BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

which can be covered by one sample of food or one sample of contaminated water.

The possibilities of the air as a mode of spreading disease are not nearly so well known as the possibilities of water and food. It is a subject which has led to a great deal of controversy for a number of years. Recently there have been experimental infections transmitted by the airborne route under controlled conditions, therefore it is known that proper conditions can be set up and experimental animals have been and consequently can be infected.

There have also been a number of individual cases of experimental airborne infections in men. These cases have usually been accidental contaminations where volunteers were receiving spray inoculations of various virus diseases. These accidental infections could scarcely use any route other than air.

There have also been a considerable number of explosive epidemics in research laboratories where large numbers of laboratory workers in widely separated rooms have been infected under circumstances which preclude any real possibility of contact except through the air. In two of three recent infections the infection appears to have been the result of centrifuging of suspensions of pathogenic agents in a laboratory centrifuge. It has been demonstrated experimentally that grinding of tissue in a Waring Blendor or even the withdrawing of a hypodermic needle from a rubber-stopper vial can produce an aerosol of appreciable size.

Since these simple operations can produce aerosols large enough and concentrated enough to produce disease cases in people working in the same room or the same building, it should certainly not be difficult to disseminate such cultures from an airplane either with ordinary spray or dusting equipment from low altitudes or as bomb charges from a higher altitude. No devices have yet been perfected for defense against such a possible aerosol cloud.

Chromates and Lung Cancer

Pulmonary Carcinoma in Chromate Workers. 1. A Review of the Literature and Report of Cases. 2. Incidence on Basis of Hospital Records. By Anna M. Baetjer, The Achives of Industrial Hygiene and Occupational Medicine. 2:487-516 (November, 1950).

In only a few instances has it been suggested that a non-radioactive metallic compound was a factor in lung cancer. The first cases of lung cancer attributed to chromates were observed in Germany in 1911 and 1912 but were not reported in the literature until 1932. Between 1932 and 1947 there were at least 52 cases of cancer of the respiratory tract in the German chromate producing plants. There are no data on death rates due to lung cancer or on the instance rate of lung cancer in chromate workers as compared to other workers in Germany.

In this country Machle and Gregorius published a study of the deaths from cancer of the respiratory tract in the chromate-producing industry. This group showed

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Davis pioneers another great first aid "first!" Here's the kit that has *everything* for the relief of pain from a burn. It's built around Americaine and a Davis-engineered rechargeable atomizer sprayer that gently, quickly covers the burned area with a film of pain relieving Americaine. In addition to a generous supply of liquid spray solution, the kit also contains Americaine in a water-soluble ointment. The spray relieves the pain—the ointment maintains this relief. Bandages, compresses, applicators, chrome plated atomizer, and recharge cartridges for the sprayer are handily available in the sturdy kit carrying case.

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that 21.8 per cent of all deaths were due to cancer of the respiratory system in the chromate producing industry as compared with 1.4 per cent for a control group of industrial workers in other industries.

For cancer other than of the respiratory tract the rate for the workmen in the chromate producing industry was not significantly different than that of workmen in industry in general. This group included 42 deaths from cancer of the respiratory tract. Other investigators have reported 15 additional cases in this country and one case each in Switzerland and England. This with the German cases makes a total of 122 cases of cancer of the respiratory tract among workmen with an occupational exposure to chromium compounds—109 workers in the chromate-producing industry, 11 in the chrome pigment industry, and 2 in other industries.

The length of exposure to chromate varies greatly. The shortest recorded period was four years of employment and the longest 47 years. The average duration of employment in the German cases was 22 years and in the United States cases 16 years.

Lung cancer occurred mostly in older men with an average of 52 years of age for the United States cases. One case in Germany was in a 29-year old man, and two in the United States were in men below 35.

There is no data to indicate the amount of chromate dust to which the men were exposed prior to developing the lung tumors. In the American plants variations from 0.01 to 21.0 milligrams of chromium per cubic meter of air have been reported. Analyses of blood and tissues of chromate workers with and without cancers have not revealed any significant regularities.

There is some in evidence that monochromates are more important in the production of cancer than are bichromates.

In order to get a somewhat different statistical picture of the incidence of lung cancers in the chromate industry it was decided to study the distribution by occupation of lung cancer cases in the

—*To page 84*

Better Vision

reduces accidents . . . after just

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of America's Leading Maintenance Paint!

America's First and Finest
COLOR SERVICE
to make your painting pay extra dividends at no extra cost

A service comprising detailed color suggestions tailor-made for you by trained consultants from Glidden Color Laboratories with over 21 years of experience. These comprehensive color harmony plans for interior painting based on Glidden's famous Sight Perfection Program pay important extra dividends! Write Dept. F-6 for complete information about this free service.

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Workers see better, feel better, make fewer mistakes, have fewer accidents after Glidden SPRAY-DAY-LITE or BRUSH-DAY-LITE is used to promote plant safety. To save man-hours, speed production and reduce manufacturing costs, try *one-coat* painting with America's largest-selling interior maintenance paint.

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"Safety-Walk" stops falls, keeps your men on the job!

You get safe, sure footing with "Safety-Walk" applied to catwalks, steps, ramps and walkways. This mineral-coated fabric with pressure-sensitive adhesive on the backing holds tight, provides perfect traction . . . even under water, oil or grease! Available in 4 colors, many sizes and shapes.

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Try "Safety-Walk" yourself! Easy to apply . . . strip off liner and press in place. For free sample and complete information write: Minnesota Mining & Manufacturing Company, Dept. NSN61, St. Paul 6, Minnesota.

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WETORDRY NON-SLIP
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SURFACING

Made in U. S. A. by MINNESOTA MINING & MFG. CO., St. Paul 6, Minn., also makers of "Scotch" Brand Pressure-sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "3M" Abrasives, "3M" Adhesives. General Export: Minn. Mining & Mfg. Co., International Division, 270 Park Avenue, New York 17, N. Y.

Oaf with a Banjo

—From page 25

for employee publication editors Lee keeps on file. The letter was an effort to enlist Carman's support for a campaign to make Lee work with us better.

I never did get that letter mailed, because just then Lee got an award from the NSC for exceptional service to safety for the safety coverage in our magazine.

This month Lee must be short of material, because he came to see me. "Why don't we do a vacation safety piece for July?" he asked.

"It'll give me an excuse to get some babes in swimming suits and some shots of employees hunting and fishing. They'll eat it up. Kid pics, too, toddlers about to get fried at campfires, a dog in the back seat of the car—a couple of good scenic shots."

I said, unhopefully, "I was planning on a story on machine guarding."

Lee replied, in his most patronizing voice, "Look! It's the July issue we're talking about. People are thinking about vacations. Darn it, I don't need safety for a vacation story—I can get a credit union angle and do a better piece without lousing up the art with people being careful. But if you think I'm going to run a machine guarding piece, a decent one, more than a half page, in July——"

"Okay," I said. "Vacation. Let's do it."

And the funny thing is that after a little thinking about it, we've come up with a yarn that's really okay, with some first rate photos. It certainly ought to be read.

But I still say Lee's an objectionable, conceited oaf. I'd sure tell him where to head in—if I didn't need his help so much.

Warns of Menace of Criminal Arsonists

Criminal arsonists rarely resort to the use of explosives, according to John J. Ahern, director of fire protection and safety engineering at Illinois Institute of Technology.

Speaking before the seventh annual four-day Arson Investigators' Seminar at Purdue University, Ahern described blast action and damage effects which make explosives impractical for arsonists.

"Explosives are the tools of intimidation, the calling card of professional underworld characters. They are used as warnings rather than for their damaging effect. Further, they are too unpredictable and unsafe, and leave damaging evidence. A raging fire will do a more complete job of destruction, and will, at the same time, destroy all evidence."

Ahern cited characteristics of explosives which produce two actions —an air blast in all directions away from the explosion and the shock wave whose damaging action comes from sustained outward pressure followed by suction.

"The typical example is a window glass cracked by the pressure wave, and then drawn outward by the suction wave. A high explosive, such as dynamite, placed against a structure expends most of its energy in the air blast, severely shattering all materials within a few feet of the charge.

"A low explosive, such as gasoline vapors, has a limited air blast, but produces a sustained pressure wave forcing out walls and then drawing them inward, resulting in collapse of the structure with little or no evidence of shattering.

"With low explosives it is impossible to regulate quantities and provide detonating action. High explosives are impractical because of the limited damaging action," Ahern said.

New Ford Record

A new record of 3,357,300 manhours without a disabling injury has been made by employees of the Ford Motor Company's Chester assembly plant, according to George T. Vincent, acting plant manager.

The all-time high in consecutive safe working hours since the plant opened in 1928 was reached at the close of the working day on April 19 when the plant completed 188 days.

The assembly unit had a previous mark of 3,148,741 manhours made in 1950. The plant passed the 3,000,000 man-hour safety mark twice within a year. Last year the plant received the National Safety Council's Award of Honor for Distinguished Service to Safety.

New First-Aid Booklet

Featuring a completely new and original approach, with animals as the subjects of cartoon illustrations, *Still Waggin'*, a pocket-sized booklet on first aid, has just been produced.

The booklet points out the dangers of self-treatment for foreign bodies in the eyes and for minor wounds, encourages prompt reporting of injuries, urges employees to learn first aid and artificial respiration, and describes the emergency treatment for chemical splashes.

Printed in two colors, the booklet is 3 inches by 5½ inches. It derives its title from the cover, which shows a dog with a bandaged tail "still waggin'" because it received first aid without delay.

Member prices: 1 to 9 copies, 12 cents each; 10 to 99, 7 cents each; 100 to 999, 6 cents each; 1,000 to 4,999, 4½ cents each. For prices on quantities over 5,000 and for a sample copy, write the Council's Membership Department.

Electrical Test Unit for Receptacles

Applicable throughout industry, Detail Sheet No. 123 shows an *Electrical Test Unit for Receptacles*. It has a schematic wiring diagram, dimensional drawings for construction, photographs of the unit in use, and a special chart which can be cut from the Detail Sheet and pasted on the back of the portable testing equipment.

This unit is unusual because it contains only three light bulbs wired in a special circuit. The maintenance department, plant electrician, or safety engineer can check all receptacles with this portable device, and by means of a bright light, dim light, no light, or combinations of the three, eight types of trouble can be detected.

With this unit, receptacles can be checked for good grounds, and, if alterations have been made by outside persons, if remodeling has been done, or if circuits have been added, such changes in the original plant electrical circuit can be detected.

Member prices: 1 to 9 copies, 12 cents each; 10 to 99, 9 cents each; 100 to 999, 8 cents each; 1,000 to 4,999, 7 cents each.

Association News Letter

The first issue of a new National Safety Council publication, *Association News Letter*, recently was sent to 550 associations throughout the country. Included were trade associations, professional societies, engineering groups, and similar organizations.

The purpose of this news letter is to promote safety among associations by publicizing outstanding accident prevention activities conducted by them, by assisting them with the safety programs they conduct for their members, and by providing a medium of exchange for ideas and information on accident prevention.

A few copies of this four-page newsletter are still available.

Have Fun!
DOWN VACATION TRAIL
DEAR FELLOW WORKER,
Now is the time to enjoy yourself. Have fun — we'll see you back on the job safe and sound.

"Have Fun," an 8-page leaflet, recently produced, tells employees in an entertaining way how to have a safe as well as a happy vacation.

New Hospital Cards

Two new Safety Instruction Cards for use in training hospital personnel are now in stock. No. H 141 is entitled *Mopping Floors* and No. H 142, *Safety Pins*.

New Safety Reprint

Safety Reprint Rubber No. 2, *A Study of Workers Exposed to Talc and Other Dusting Compounds in the Rubber Industry*, by Warren L. Hogue, Jr., and Frederick S. Mallette, is now available.

This four-page article is reprinted from *The Journal of Industrial Hygiene and Toxicology* and was first presented at the Annual Meeting of the American Industrial Hygiene Association in April 1949.

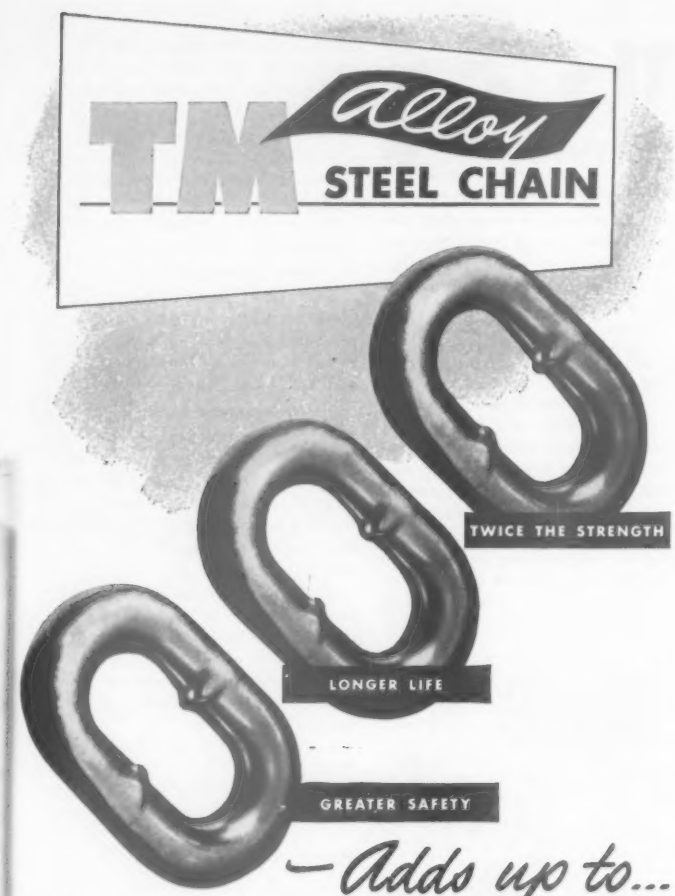
Member prices: 1 to 9 copies, 17 cents each; 10 to 99, 13 cents each; 100 to 999, 8 cents each; 1,000 to 4,999, 7 cents each.

Heads NFPA

A. H. S. STEAD, Montreal, was re-elected president of the National Fire Protection Association, as the NFPA closed its 55th annual meeting in Detroit. Mr. Stead, who is a former president of the Dominion Board of Insurance Underwriters, is the first Canadian to be president of this group.

Others elected were: Vice-Presidents, Allen L. Cobb, Rochester, N.Y.; T. Seddon Duke, Philadelphia. Secretary-Treasurer, Hovey T. Freeman, Providence, R. I. Chairman of Board of Directors, Richard E. Vernor, Chicago.

Named to serve on NFPA Board of Directors for three years were: A. L. Brown, Boston; Donald C. Bowersock, Boston; C. H. Bunn, Jr., Linden, N.J.; Loren S. Bush, San Francisco, and John Kidde, Belleville, N.J.



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Reverse rising chain costs with TM Alloy Steel Chain. It's super safe. It *stays on the job five to fifteen times longer*—has twice the tensile strength of wrought iron chain. TM Alloy Steel Chain is completely heat-treated for link to link uniformity. Extreme toughness and great resistance to shock, grain growth and work-hardness eliminate periodic annealing costs. Call your mill supply distributor today for more details or write Dept. 7 for Bulletin 12A.

This Registration Ring bears the chain's serial number. It's your assurance of thorough testing and inspection before shipment.

S. G. TAYLOR CHAIN COMPANY
HAMMOND, INDIANA

TAYLOR MADE
A GREAT NAME IN
Chain SINCE 1873

Safety in Numbers

—*From page 46*

from the successes and mistakes in our respective fields. Interchange of information on individual problems and techniques is the only sound approach to an overall safety problem that recognizes no professional, geographic or human boundaries.

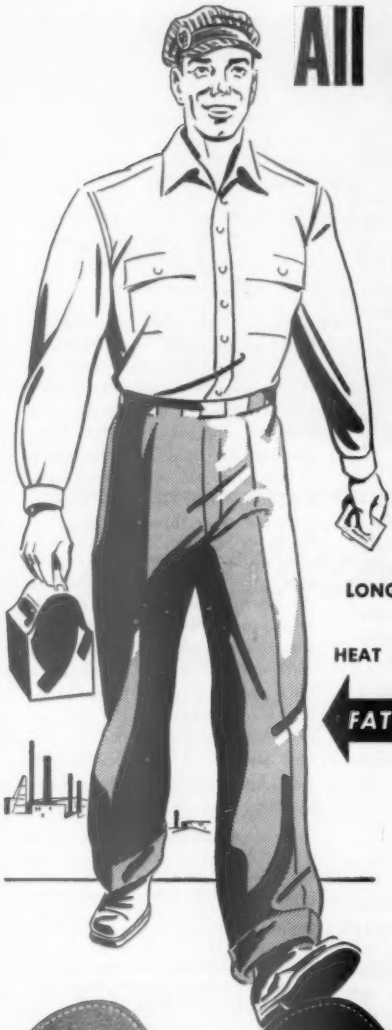
As an adjunct to your integrated effort, you might issue to the public at large an "Invitation to Safety," perhaps through your safety council, encouraging citizens to recognize their special obligation with respect to safety in this period of national emergency. Another useful project might be something in the nature of a city-wide safety suggestion box. If the interest and support of the millions who have suffered from accidents is ever fully crystallized and mobilized, I am confident there would be developed an irresistible force for accident prevention, such as we have never known before.

Uniting thus in a general safety crusade, it would be possible to tie in many elements also useful for the advancement and improvement of civil defense. First-aid training could be accelerated immeasurably. Rescue squads could be afforded an opportunity to gain needed experience by serving traffic accident cases. Good traffic management could be brought to the fore more prominently, with emphasis on the additional responsibilities imposed by the greater transportation service demands due to stepped-up production and military requirements — not to speak of routing, supply, and other mutual-aid problems in case of actual enemy attack.

These are some of the compelling reasons for a more concerted, better integrated safety movement in every state and community. The individual is the focal point in accident prevention, but real safety lies only in numbers—in people working wholeheartedly together to preserve themselves and their fellow citizens. A united front against accidents is a vital first step toward a safe and prosperous America.

All 6 accident prevention features in...

EXCLUSIVE AIR-CELL CONSTRUCTION



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If these 6 accident prevention features are important to you, then always specify famous **Vul-Cork** or . . .

Vul-Cork Oil Resisting Neoprene Soles — the only soles made with exclusive ***AIR-CELL CONSTRUCTION.***

Vul-Cork

Vul-Cork OIL RESISTING NEOPRENE

Vul-Cork oil-resisting Neoprene combines VUL-CORK'S famous comfort features with complete protection against excessive oils, acids, caustics, and hot surfaces underfoot. With Neoprene, lightweight VUL-CORK Soles remain flexible, do not crack in extreme cold, do not revert — or melt — on hot surfaces. The ideal all-purpose sole.

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Vul-Cork SOLES WITH EXCLUSIVE AIR-CELL CONSTRUCTION, patented and made exclusively by

THE **Cambridge** RUBBER COMPANY VUL-CORK SOLE DIVISION
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"WOVEN-Gards"

BETTER HAND PROTECTION

at amazing low cost

"Woven-Gards" are hand protectors, mitts, pads and sleeves made of a new long wearing safety material. They provide flexibility, comfort, resistance to abrasion and cutting far beyond that of anything used before. They are extremely oil-absorbent and do an excellent job when handling oily, slippery sheets. The porous weave makes them one of the finest protectors for handling lower temperatures. Enthusiastic users say they have never seen values like "Woven-Gards." Excellent protection at lowest cost. Send now for descriptive folder and prices.

Industrial Gloves Co.
A Corporation
1738 Garfield St., Danville, Ill.
(In Canada: Safety Supply Co., Toronto)

Steel-Grip INDUSTRIAL Safety Apparel

Radioisotopes

—From page 40

fundamental and important safeguard.

13. The transportation of radioactive materials requires strict supervision to avoid overexposure of people and photographic film when the materials are en route. As would be expected, this function is performed by the Interstate Commerce Commission, which has administratively classified radioactive substances, including radium, as Class D poisons, and has issued regulations specifying the size of shipments, the type of packaging, and the allowable radiation levels.

14. Although over 100 isotopes are available from the AEC, Phosphorus^{32} and Iodine^{131} account for over 8,207 of the 12,213 shipments made up to May 31, 1950. Carbon^{14} and Sodium^{24} accounted for 1,227 of the remaining shipments.

15. It is fortunate that these particular isotopes, which have proved so valuable in industrial and biological research, have physical characteristics which simplify the protective procedures required for their use.

16. Radium, which has been used in substantial quantities by industry, has a long life, and its daughter products emit highly penetrating gamma radiation. In addition, the hazard from radium is made more severe by the fact that when it is absorbed into the body a large fraction is deposited in the bones, from which it is excreted at a very slow rate. Thus, from the standpoint of half life, the type of emission and body metabolism, radium is a relatively hazardous material with which to work.

17. In contrast, the four isotopes (P^{32}, I^{131}, C^{14}, and Na^{24}), which account for 78 per cent of the shipments made by the Isotopes Division, have less hazardous characteristics.

18. Phosphorus^{32} has a half-life of 14.3 days and is a pure beta emitter. The radiant energy from this isotope is completely absorbed by a few millimeters of glass or lucite.

19. Iodine^{131} has a half-life of eight days and is a gamma emitter. If absorbed into the body, the isotope concentrates in the thyroid from which it is excreted with comparative rapidity.

20. Sodium^{24} has a half-life of only 15 hours, is a beta-gamma emitter, and if absorbed into the body is rapidly excreted.

21. Carbon^{14} has a comparatively long half-life of 5,100 years. It is a soft beta emitter which can be absorbed by moderate shielding. If absorbed into the body, it becomes diluted by the large amount of carbon in all the tissues of the body. It is excreted from the body somewhat less rapidly than the other three isotopes.

22. The many years of experience which industry has gained in the safe use of X-rays and radium have proved the basis for the safe use of the more widely available radioactive isotopes. The procedure adopted to safeguard the health of workers on the projects of the Manhattan Engineering District and the AEC have been, in fact, fundamentally based on experience with X-ray and radium.

ACKNOWLEDGMENT

This data sheet was originally presented as a speech at a session of the Chemical Section, 1950 National Safety Congress, by Merril Eisenbud, director, Health and Safety Division, New York Operations Office, U. S. Atomic Energy Commission. It has been approved by the Industrial Conference of the National Safety Council.

Recreation Conference To Be Held at Purdue

The sixth annual Industrial Recreation Conference will be held at Purdue University, Lafayette, Ind., November 18, 19, and 20, 1951, under the sponsorship of the Division of Education and Applied Psychology and the Technical Extension Division. Cooperating organizations include the National Industrial Recreation Association and the Indiana State Chamber of Commerce.

Leaders in the field will discuss special problems and developments in the organization and administration of programs.

STONEHOUSE SIGNS
For Accident Prevention

for *Efficient* production

TODAY, greater efficiency per worker is one of industry's most urgent production requirements.

Costs and prices are of vital importance in a market where competition becomes more and more keen.

You'll find the use of Stonehouse "Efficiency" signs most helpful in creating greater efficiency and improved employe morale.

HALF THE VALUE OF ANYTHING TO BE DONE IS DOING IT PROMPTLY
THINK
CARELESS MEN NEVER ARE EFFICIENT
NOTICE
STAY ON JOB — UNTIL — WHISTLE BLOWS
NOTICE
-NO- LOAFING ALLOWED
PLEASE TURN OFF LIGHTS
MATERIAL IS MONEY SAVE IT!
IF YOU ARE A SELF STARTER THE BOSS WON'T HAVE TO BE A CRANK
SAFETY FIRST
BE CAREFUL
SAFETY FIRST
HELP KEEP THIS PLACE CLEAN
HELP US MAKE THIS A BANNER YEAR FOR NO ACCIDENTS

STONEHOUSE STEEL SIGNS
For Accident Prevention

STONEHOUSE COMPLETE CALALOG NO. 9...64 pages, in full color, shows hundreds of different stock-worded signs covering every conceivable hazard. It's free on request!

Stonehouse **SIGNS, inc. MANUFACTURERS • Stonehouse Bldg., 9th at Larimer**

"Signs Since 1863" **Denver 4, Colorado**

ACCIDENT PREVENTION • *steel* SIGNS IN STANDARD COLORS AND DESIGNS

Learn about Frost's SURE-FOOT Non-Slip Abrasive Paint—the paint with the positive traction that remains non-slip wet or dry.

SURE-FOOT
NON-SLIP ABRASIVE PAINTS

will eliminate these potentially dangerous areas—whether surfaced with steel, aluminum, wood or concrete:

- Stairways
- Inclines
- Aisles
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- Traffic Lanes
- Sidewalks
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EASY TO APPLY—SURE-FOOT spreads like ordinary paint on any clean, dry surface. No formulas to mix and no special tools or skilled workmen required in its easy application.

ECONOMICAL—Low in initial cost, SURE-FOOT offers low cost coverage . . . costs less than 10¢ per square foot installed.

EASY TO RE-PAINT—Carbide crystals provide the non-slip element in Frost's SURE-FOOT Paint. Easily renewed where heavy traffic eventually wears through. Just re-paint—no stripping or removing of old paint.

Write Today . . . to Dept. B. for the SURE-FOOT Bulletin. Discover for yourself how *inexpensively* you can eliminate slippery conditions in your plant.

Frost PAINT AND OIL CORPORATION
MINNEAPOLIS 13, MINNESOTA

Asked and Answered

Assistance with problems of accident prevention and industrial health is offered by National Safety Council. All inquiries are answered by mail and a few topics are selected for publication.

Sandblasting Oil Tanks

Question: At present an investigation is being made to determine a more satisfactory and economical painting procedure. As part of this investigation it may be necessary to sandblast tanks in a battery or to sandblast an entire tank battery. This would be done in order to remove all old paint, dirt, grease, etc., from the surface of the metal.

Do you have any information concerning the cleaning and sandblasting of crude oil tankage?

Answer: Following are summaries of answers received by the American Petroleum Institute from 12 companies in response to an inquiry regarding the sandblasting of tanks. The survey was conducted in mid-1950.

1. Sandblasting is not permitted on any tanks that contain volatile liquids, regardless of the amount. Air or hand-power wire brushing is permitted when the tank cannot be taken out of service, but steel brushes are not used. If any stock is to be moved in or out of the tank, work is stopped. Under most circumstances the tank is taken out of service, drained and gas-freed before either sandblasting, brushing or scraping is done.

2. It has not been our policy to permit sandblasting or steel wire brushing of tanks that are in oil storage service. Our practice has been either to drain and gas-free the tank or to replace the oil with water prior to brushing or sandblasting.

3. Work is scheduled with the operating department so that stocks will not be low in tanks while cleaning and painting. Where the surface is particularly bad we are at present using a wet sandblast with satisfactory results. We also use an air-operated chipping hammer with a non-sparking tool in some cases, and hand brushes in others. Work stops while stocks are being pumped in or out.

4. At present we feel it is not too safe to sandblast tanks containing volatile liquids. Ordinary hand wire brushes are used with such work being performed from stagings. No work is permitted when pumping in or out. In the case of floating roof, the roof should be in the uppermost position before the work is performed.

5. In our marketing operations the storage tanks are sandblasted without removing the product. The following precautions are taken: The vent is extended eight feet above the tank roof, gauge openings are covered with wet sacks, and tanks are caulked before sandblasting. Products are not pumped during cleaning operations. Hand wire brushing and spray-painting are not considered hazardous but should be stopped while product movement is taking place.

6. Sandblasting and spray-painting to our storage tanks is permitted while they are in service as long as the sandblasting is kept well under three feet of the level of the product in the tank. Spray-painting is allowed on the entire tank and both spray guns and sandblasting nozzle are bonded to the tank and adequately grounded. Upper level and tops of tanks are cleaned with brass brushes. All work stops while product is being pumped.

7. Sandblasting and spray-painting of outside shell of floating roof tank is permitted when the tanks are either full or the roof is not below the bottom of the top ring of the shell. The top ring and deck must be hand wire brushed, using bronze brushes or scrapers. The tank deck must be painted by hand. These same general rules hold for cone roof tanks. All work is stopped during product movement.

8. We sandblast only atmos-

KLEAR-VU SAFETY ACCESSORIES

mean Safety First—Last and Always

PERFECT RESISTANCE TO DUST, FLAME, ACID, OIL AND WATER!

PRICED RIGHT!

STYLED ATTRACTIVELY, LIGHT IN WEIGHT, EASILY CLEANED!

Thousands of leading safety engineers . . . men who know that minimum risk means maximum production . . . insist *only* on Klear-Vu Safety Caps, Safety Aprons and Safety Arm Guards to protect workers.

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WRITE TODAY FOR SAMPLES AND PRICES!

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SOLID COMFORT

IN HARD BOILED* SAFETY HATS

Self-shaping . . . like a well used felt hat. Air-cushioned for sheer comfort. Radiation tests prove them 10% cooler.

Save money. One size fits all heads . . . reduces inventories. Headband assembly can be removed or replaced in six seconds.

Color choice unlimited. Vivid, permanent colors molded all the way through *stronger-than-steel* Fiberglas shock-absorbing crowns.

Make safety hat wearing popular by furnishing Hard Boiled Hats or Caps.

WRITE FOR FREE COLOR CIRCULAR

EVERYTHING BULLARD IN SAFETY HARD BOILED *T. M. Reg.

Distributors in principal cities

E. D. BULLARD COMPANY

275 EIGHTH STREET, SAN FRANCISCO, CALIFORNIA

pheric pressure tanks which are gas free or gas tight pressure tanks. We put no limitations on air motor wire brushing. Sandblast hose is bonded to the tank and gas tests are taken at frequent intervals. Movement of stocks is disregarded.

9. The safest practice, if a tank must be sandblasted, is to take it out of service, clean it and make it gas free. Spark-proof tools should be used for cleaning, scraping and making repairs on light oil tanks. Hand-operated steel wire brushes are satisfactory in these locations. If power driven brushes are used, they should have brass wires. On floating roof tanks they should be at least 50 per cent full of product before starting to clean or paint; otherwise the same practice that is described for cone tanks should be used.

10. It is our practice to hand wirebrush and hand scrape loose paint or rusty spots. This practice has been dictated on the basis of economics rather than safety. We would have no objection to sandblasting the shell below the top ring with product in the tank if such a procedure were justified economically.

11. Apparently this company prefers air power wire brushing but does mention when sandblasting that they bond the nozzle to the tank or use the Vacu-blast system. The only comment on tank content is that they would not normally work on tanks which are receiving low flash (under 100° F) materials or high flash materials near their flash points. Preferably tanks should be quiet but discharging tanks present no hazard.

12. Sandblasting is not permitted on any tanks containing flammable materials. The sandblasting must be done in locations where flammable vapors are not likely to be present and all sandblasting nozzles must be grounded. Preparation of the surface for painting shall consist only of wire brushing and scraping. Only spark-proof tools such as buffer brushes, hammers and scrapers are to be used. No work shall be done on any tank containing oil with a flashpoint below 125° F when pumping in or out.

From the foregoing it appears that of those companies which responded the score was about 3 to 1 against sandblasting of any tank unless it had been gas freed. Those companies that did permit sandblasting of their tanks while they contained liquids had some very definite rules about only using the sandblast method up to the top ring of the tank, never on the roof, extending the vent line well overhead, making sure that the tank was completely full or that they were working below the liquid level and in every case they were unified on the necessity for bonding the sandblast nozzle.

Two-Way Channels

—*From page 31*

teaching his crew members how to do the job correctly so they will not get hurt. Also, if the instruction is given at the start, men will not have to unlearn dangerous and wasteful methods.

Another topic is: *You are your brother's keeper.* This stresses the idea that each man (including the foreman) should think of the other fellow's safety as well as his own. This not only helps to prevent accidents but also builds a better man-to-man feeling on the job.

Others are: *The value of an explanation* and *The value of a question.* These point out that men will work safely and whole-heartedly if the foreman explains the purpose of each job and why it should be done a certain way. Too, this prompts workers to ask about details they do not understand. Each maintenance and construction crew also spends a few minutes at the start of each new job, discussing possible hazards, the locale or the work equipment, and any special precautions to be taken. Much waste of time and material as well as accidents are avoided. Oil losses and pipe shutdowns are minimized.

These discussions keep the foreman on his toes and provide a neat gauge of his effectiveness as a supervisor. Our foremen have measured up to the challenge because of the preparation they have received. They have attended con-

NEWEST AND MOST IMPORTANT ADVANCE EVER MADE IN SAFETY SHOE INDUSTRY!

14 to 1 ON ABRASION RESISTANCE Alone!

Yessir! RICO SAFETY SHOES

stitched with Thread of DACRON, polyester fiber, have something exceptional to offer. Laboratory tests prove this synthetic marvel has as much as 14 times the abrasion resistance of conventional thread.

DACRON*

DURABILITY—possesses a unique combination of physical and chemical properties which allow for a longer lasting and more serviceable shoe than ever made before.

DACRON

ABRASION RESISTANCE—life of the shoe seams are considerably lengthened due to tremendous resistance to abrasion. Constant problem of scuffed out sole stitching, in plant wear, is greatly reduced.

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CHEMICAL RESISTANCE—unusually resistant to acids, alkalis, bleaches and common solvents. Seams made with this fiber add greatly to the service life of shoes in the steel, oil and chemical industries.

DACRON

RESISTANCE TO MILDEW AND BACTERIA—amazingly resistant to mildew and bacterial action—the problem of rotted, mildewed seams are solved at last.

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OUTSTANDING STRENGTH—because threads of DACRON are several times as strong as conventional threads of equal diameter, seams can now be made strong and tight without being stiff and bulky.

DACRON

NOT AFFECTED BY MOISTURE AND PERSPIRATION—because DACRON is not affected by moisture and perspiration, stitching failures due to these common causes have been eliminated.

*DU PONT trademark for polyester fiber

Another RICO First

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BROCHURE—"What's New in Safety Shoes" and CATALOG—"Safety Shoes for every job in industry" Write today!

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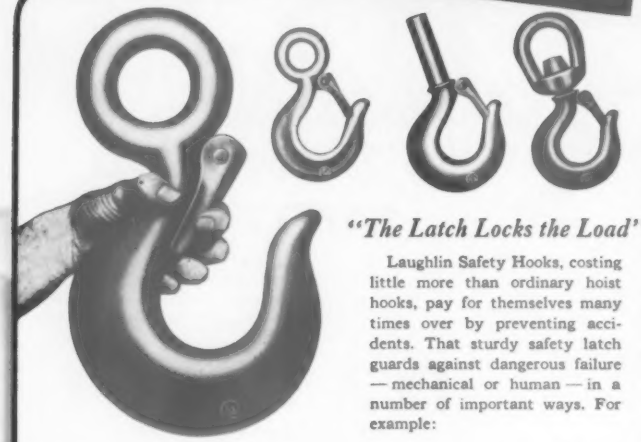
Yours for little extra cost with

LAUGHLIN Safety Hooks



"The Latch Locks the Load"

Laughlin Safety Hooks, costing little more than ordinary hoist hooks, pay for themselves many times over by preventing accidents. That sturdy safety latch guards against dangerous failure — mechanical or human — in a number of important ways. For example:

1. It prevents load from slipping or jarring loose in mid-air.
2. It eliminates the hazard of carelessness — the load that was *supposed* to be lashed but *wasn't*.
3. It prevents overcrowding the hook.
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by changing over to Laughlin Safety Hooks. Made of drop-forged, heat-treated steel, they have pressed steel latches in the smaller sizes, cast bronze latches in the larger sizes, all with stainless steel springs. Available in various types for 750 lb to 15 ton safe working loads at your mine, mill or oil field supply house.

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THE MOST COMPLETE LINE OF DROP-FORGED WIRE ROPE AND CHAIN FITTINGS

ferences on company policies and the principles of supervision, and they have received special training in job relations, job instruction, and job improvement.

Our foremen believe that the safety program benefits them directly, because they receive from management more help in job planning and keener appreciation of their many responsibilities.

The value of on-the-job safety meetings for the promotion of service continuity, productivity and waste reduction lies in the fitness of the place and time for selling these directly applicable ideas. We started these meetings during the war when our accidents were increasing. An immediate reduction of accidents followed.

Productivity in our business means more barrel-miles of oil transportation. Our employees have been able to boast of new record line throughputs through constantly improving service continuity. This latter is the pay-off for utility companies, common carriers, and other firms producing service instead of goods.

Equipment inspection tours of our safety engineers with the division superintendents afford opportunities to improve morale. Periodically they visit our stations, tank farms, field farms, field batteries, and maintenance and construction jobs to inspect safety equipment and check for hazards. Their fresher perceptions often detect conditions overlooked or tolerated by local personnel. The safety engineers are often able to bolster through friendly discussion any flagging morale of supervisors and workers on isolated jobs.

Our first-aid training classes are exceptionally fine media for making company boosters. We follow the training technique prescribed by the U. S. Bureau of Mines. The training is taken voluntarily by employees on their own time. It is offered every other year.

Recently we opened the classes to members of employees' families at each station. With three days to work with each class, our instructors not only were able to give the Schafer method its due, but also to build a lot of company spirit in the home.

Then there is the automotive safety campaign. The public's opinion of a company is determined in no small degree by employee actions. With company automobiles or trucks driven by a fourth of our employees, the campaign is effective not only in cutting down insurance and repair costs but also in promoting safe and courteous driving on the highways. This is a substantial bid for public good will along our lines in seven states.

Our personal safety contests provide the means for reducing absenteeism. These instill a competitive team spirit which aids in preventing accidents and in keeping men on the job. Whether or not a minor injury results in lost time often depends on the employee's attitude. One worker may elect to lay off a few days while another, hurt even more seriously, will continue to work because of the competitive urge and his concern for the team record. Our company-wide record of but one disabling injury out of each nine accident cases illustrates the idea.

Following are special safety awards received by our employees in recent years:

1946—National Safety Council Distinguished Service to Safety Award for working 1,788,000 man-hours without a disabling injury.

1947—Four Joseph A. Holmes Awards from U. S. Bureau of Mines.

1948—Second Distinguished Service Award for 1,273,000 safe man-hours. One Joseph A. Holmes Award.

1947-48—First place in NSC Petroleum Section Contest, Oil and Gas Pipe Line Division.

1948-49—Second place in Petroleum Section Contest.

1949—First place in Petroleum Section Contest. (Contest placed on calendar year basis.) Five Joseph A. Holmes Awards.

1950—First place in NSC Petroleum Section Contest.

1939-48 — Five President's Medal Awards from the National Council to employees for saving lives by Schafer method of resuscitation.

These honors have built up group morale through pride of achievement by our employees.

More than ever before, industry is in the hands of specialists—in public relations, customer relations, personnel relations, union relations, training, and safety. I

—*To page 82*

"Mighty considerate of them to build this place out of slip-resistant 4-Way Safety Plate."

For greater safety under foot, in your plant and on your products

Inland 4-Way® Safety Plate

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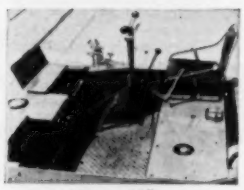

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USE FERA-MAT OR FERROX

Slips are costly . . . and far too frequent. In fact, they cause one in six of all disabling accidents. You don't have to put up with greasy, oily, hazardous floors. The cure is simple . . . and economical. For safety underfoot, use easy-to-apply Fera-Mat or Ferrox floor coverings.

FERA-MAT facts

- Peel it...roll it...and walk on it in safety.
- Comes in 6" x 24" cleats that are ideal for stairs.
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- Goes down on any clean surface... and stays there.
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FERROX facts

- Open the can...trowel it on... ...say so-long to slips.
- Perfectly suited for machine areas and uneven surfaces.
- Gives excellent coverage...40 square feet to gallon.
- Really sticks...resists oil, chemicals and weather conditions.
- Costs ⅓ as much as fabric-backed floor coverings.

AB-100

Take your choice of either FERA-MAT or FERROX, depending on your plant conditions. Look into American Abrasive's line of non-slip treads, plates and gratings. *Fact Folder on Safety Floorings contains data on Fera-Mat, Ferrox, Fera-Flow, Fera-lun, Bronzalun, Alumalun. Send for your copy.*

AMERICAN ABRASIVE Safety Floorings

AMERICAN ABRASIVE METALS CO. · IRVINGTON 11, N. J.

It Watches Your Step

—From page 29

subjects, low, medium, and high heels. These differences, however, did not materially change the ratios between the horizontal and vertical forces for corresponding stages of the step.

In general, the results showed that during the retarding phase of a step, a minimum coefficient of friction of around 0.2 is essential if slipping is to be avoided. When walking is entirely automatic and subject to sudden changes in velocity and direction, a higher coefficient would likely be necessary to prevent slipping. Friction coefficients of less than 0.2 are obtained with the Bureau's dynamic pendulum-impact type slipperiness tester[1] on many smooth-faced floors when wet.

[1] See Measurement of the slipperiness of walkway surfaces, NBS Tech. News Bulletin 31, 40 (April 1947).

THE HONOR ROLL

Records of operation exceeding 500,000 man-hours, or one year, if exposure exceeds 300,000 man-hours, without a disabling (lost-time) injury are invited.

Aluminum Company of America

The Aluminum Cooking Utensil Co., Chillicothe, Ohio—October 6, 1949 to February 26, 1951; 1,013,879 man-hours.

Armco Steel Corp.

Maintenance Shops, Butler Division, Butler, Pa.—September 14, 1947 to April 8, 1951; 2,176,225 man-hours.

Dominion Bridge Co., Ltd.

Forge Shop, Lachine, Que.—June 11, 1947 to March 31, 1951; 304,133 man-hours; continuing.

General Petroleum Corp.

Southwestern Terminal, Marketing Dept.—February 3, 1948 to March 3, 1951; 379,296 man-hours; continuing.

Purchasing Dept.—January 7, 1949 to January 7, 1951; 402,392 man-hours; continuing.

B. F. Goodrich Co.

Plant 4, Akron, Ohio—December 2, 1950 to April 21, 1951; 1,045,170 man-hours; continuing.

Aeronautical Division, Akron, Ohio—October 24, 1950 to April 21, 1951, 1,070,891 man-hours; continuing.

Lago Oil & Transport Co., Ltd., Aruba, Netherlands West Indies

Accounting Dept. — 3,394,125 man-hours, as of February 28, 1951; continuing.

Dining Hall—1,376,100 man-hours, as of February 28, 1951; continuing.

Laundry—1,607,400 man-hours, as of February 28, 1951; continuing.

Light Oils Finishing—1,867,968 man-hours, as of February 28, 1951; continuing.

Marine Office—1,290,780 man-hours, as of February 28, 1951; continuing.

Masons and Insulators—2,937,330 man-hours, as of February 28, 1951; continuing.

Storehouse — 1,504,800 man-hours, as of February 28, 1951; continuing.

Engineering, Technical Service Dept. — 2,951,290 man-hours, as of February 28, 1951; continuing.

Laboratories, Technical Service Dept.—1,867,008 man-hours, as of February 28, 1951; continuing.

Entire Plant — February 17, 1951 to April 16, 1951; 2,523,249 man-hours; continuing.

National Distillers Products Corp.

K. D. & W. Plant, Louisville Division, Louisville, Ky. — October 20, 1949 to March 18, 1951; 2,033,948 man-hours; continuing.

Republic Steel Corp.

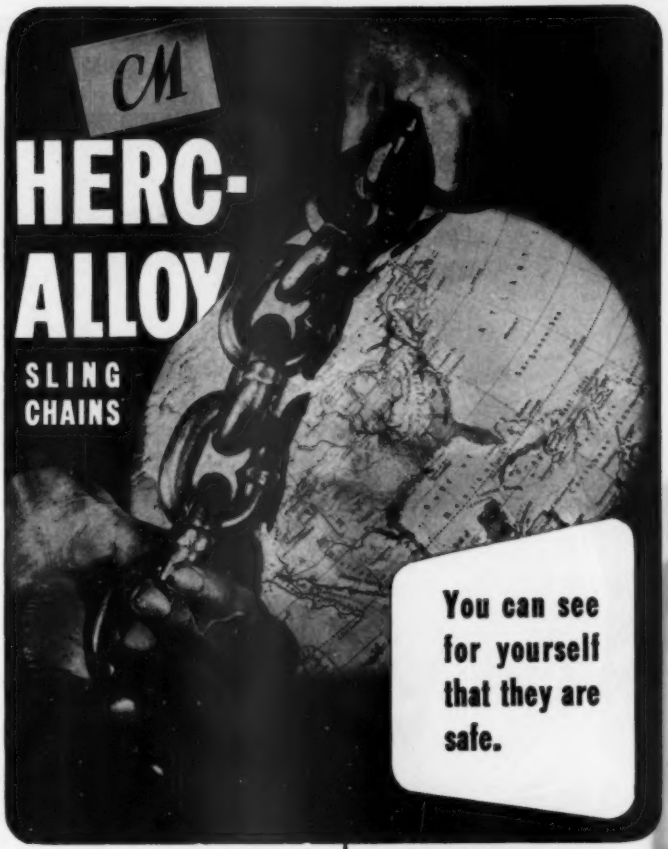
Bessemer Finishing Mills, Youngstown District, Youngstown, Ohio—March 10, 1950 to March 10, 1951; 635,536 man-hours; continuing.

Universal Atlas Cement Co.

Hudson Plant, Hudson, N. Y.—March 10, 1950 to March 11, 1951; 742,677 man-hours; continuing.

Independence Plant, Independence, Kan.—March 11, 1950 to March 12, 1951; 601,682 man-hours; continuing.

Leeds Plant, Leeds, Ala.—June 8, 1949 to March 1, 1951; 682,562 man-hours; continuing.



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It positively will not slip — holds heaviest cars in immovable position—reduces danger of injury to workers.

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The M&M Rail Clamp is made in two sizes to fit any rail worn or new —Model A—40 to 100 lb. rails; Model F—110 to 175 lb. rails.

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Pulp and Paper Safety Men At Southern Conference

Above: Following a chicken dinner the chief forester of Gaylord Container Corporation gives a lecture on logging, reforestation, fire-fighting and other company activities.

Right: Demonstration of extinguishing incipient forest fire with jeep-carried equipment was part of the day's program.

An all-day field trip, which included a real southern fried chicken luncheon, highlighted the Eighth Annual Meeting of the Southern Pulp and Paper Safety Association Conference.

On the trip the Gaylord Container Corporation's machine-paper mills at Bogalusa, La., were visited. Activities those in attendance enjoyed included the viewing of all paper mill operations, a field lecture on reforestation, and a demonstration of forest-fire fighting. The Corporation's bag and container plants were also visited. Gaylord's top management and safety officials sponsored the visit and chartered buses for the 65-mile trip.

More than a hundred safety executives attended the meeting, which was held in New Orleans April 2 to 4. The Executive Committee of the Pulp and Paper Section, National Safety Council, held their executive committee meeting on April 5 and were guests of the Association.

During the four day session there were talks by prominent speakers, presentations of important technical papers, safety awards, banquets, and poster exhibits.

Subjects discussed at the meeting include: "Is Management Sold on Safety," "Human Maintenance," "Maintaining Safety Interest," "Techniques of Accident Investigation," "Yesterday, Today and Tomorrow," "Estimating Accident Costs in Industrial Plants," "Foreman's Attitude Toward Safety." "There Must Be A Heaven for Safety Engineers," and a panel discussion.

Safety executives of more than 80 southern paper mills cooperated in the planning of the meeting. Marked by exceptionally fine speakers and enthusiastic audience participation in the discussions, the affair proved to be highly successful.

Representing National Safety Council Headquarters at the conference were H. Gene Miller, director, Statistics Division, and Harold R. Alley, staff representative, Pulp and Paper Section, Industrial Department.

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Cover damaged surface and area two inches beyond with two layers or more of petrolatum gauze dressing . . . then apply sterile dry bandage to keep clean and hold gently in place—using first-aid principles . . . have injury examined by a physician.

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Six envelopes to the illustrated carton.

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Personals

OTHO M. GRAVES, since 1931 president of the General Crushed Stone Company, Easton, Pa., and a pioneer in accident prevention in the quarry industry, has been elected to the position of chairman of the company's board of directors.

Mr. Graves has been associated with General Crushed Stone since 1918 when he became assistant to the president after resigning as professor of graphics at Lafayette College. In 1927 he was named

Otho M. Graves

vice-president and general manager and four years later became president. He is an authority on seismographic testing in quarry blasting and is a consultant to the U. S. Bureau of Mines.

Mr. Graves has been associated with the National Safety Council's Cement and Quarry Section since 1928, having served on the sectional executive committee since 1928 and was general chairman 1932-34. He was a director of the Council 1932-35. For four years he was president of the National Crushed Stone Association and has been a director of the National Association of Manufacturers.

OSCAR E. BENSON, who succeeds Mr. Graves as president, joined General Crushed Stone in 1947 as assistant to the president and the same year was named vice-president. Previously he had been manager of the Easton Division of Metropolitan Edison Company.

Oscar E. Benson

FRANK C. EVANS, who has been director of the Du Pont Company's Service Department for 16 years, will retire June 1 and EMILE F. DU PONT, director of employee relations of the company, will become director.

A great-great-grandson of the founder of the company, Mr. du Pont has been directing affairs pertaining to industrial relations, personnel, medical care, workmen's compensation and safety and fire protection in the Service Department since 1945. He also is a member of the company's board of directors and of its finance committee.

Mr. Evans, well known throughout Delaware and its neighboring states for his work with Boy Scouts, joined the Du Pont Company in 1915 as a chemist at the Repauno Works of the Explosives Department in Gibbstown, N. J. He soon went into production work and rose rapidly, serving at the Hopewell, Va., Repauno, and Barksdale, Wis., works. From 1923 to 1927 he was assistant manager of the Barksdale plant and later he was assistant man-

---

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Accident Prevention Director: Direction of state-wide program of industrial safety in Oregon. Headquarters, Salem. Permanent position in classified service. Paid vacations, sick leave and retirement privileges. Excellent opportunity for qualified man. For information, write State Civil Service Commission, Salem, Oregon.

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Keeps Floors Safe And New-Looking

EVERYTHING FOR INDUSTRIAL HEALTH AND SAFETY

You can depend upon Con-Sol Products for every maintenance problem — cleaning, insect or bacteria control, floor upkeep, health and safety.

Write Con-Sol technicians without obligation, about any specific health hazard or unusual condition in your plant. Many years of experience and over a hundred industrial housekeeping products are available to solve your every maintenance need.

Helpful Maintenance Chart On Request

Skidproof gives any type of floor — wood, linoleum, rubber, asphalt, tile or terrazzo — a hard, durable slip-proof surface that protects against the toughest kind of wear. It's easy to apply, easy to clean. It's quick-drying, odorless, economical — one gallon covers 2000 square feet!

Skidproof overcomes the slipping hazards of ordinary wax — makes rubber burns, stains and surface damage easy to get off — won't crack or check — won't discolor any floor surface. It's the finest surface finish available to keep floors shining, beautiful and safe!

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This new fire killer is easy to operate, compact, well-balanced and offers extensive maneuverability indoors or outdoors. Does a highly effective job on flammable liquid, gas and electrical fires, as well as surface fires involving ordinary combustible materials . . . granted unconditional B, C rating by the Underwriters' Laboratories, Inc.

Exclusive design renders constant free-flowing dry chemical . . . fire extinguisher is partially inverted for wheeling, then fully inverted at fire scene, which changes the position of the dry chemical in the tank and thereby provides mechanical breakage. This outstanding mechanical breakage feature, plus a continuous nitrogen pressured agitation or fluffing, together with a skillfully blended free-flowing dry chemical, guarantees a faster, more effective and complete discharge.

Rechargeable on-the-scene . . . no special tools needed . . . C-O-TWO Dry Chemical for recharging packaged in handy 50-pound size, moisture-proof containers . . . spare nitrogen pressure cylinders readily available.

Act now for complete free information on this newest contribution to modern fire fighting. Remember . . . you can't put fire off . . . fire doesn't wait. Get the facts today!

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Built-In Smoke and Heat Fire Detecting Systems

ager at the Du Pont, Wash., commercial explosives plant.

Mr. Evans returned to Wilmington in 1927 to become manager of the Personnel Division. In 1929 he became assistant director of the Service Department and in 1934 was made director. In addition to his departmental duties, he is vice-chairman of the board of benefits and pensions and a member of the fellowship committee of the company.

Mr. du Pont had a long career in production work in several plants before he came to Wilmington as assistant manager of the Personnel Division of the Service Department in 1934. He started with the company in 1923 as a student operator in the Arlington, N. J., plastics plant after finishing his studies at the U. S. Naval Academy and at Yale.

His career has taken him up through the line of operating jobs at the Buffalo, N. Y., rayon plant, the cellophane plant there and the cellophane plant at Spruance, Va. He was chief supervisor of cellophane production at Spruance in 1934 when he was transferred to the Personnel Division in Wilmington. He became manager of that division in 1935 and three years later he was made the first manager of the Seaford, Del., nylon plant. In 1941 he came back to Wilmington as director of production of the Nylon Division and in October, 1944, he was made assistant manager of the Acetate Division of the Rayon Department. He then returned to the Service Department.

JACK MCKENNA has been named safety director of Lion Oil Company, El Dorado, Ark. He had served as assistant safety director since 1948 and has been acting safety director since the death of J. R. Gordon who headed the company's safety activities for nearly ten years.

Originally employed as a boiler maker's helper at the refinery in 1933, Mr. McKenna has 18 years of uninterrupted service with Lion Oil Company. He progressed to stillman before being named refinery safety engineer in 1943.

Born in Poteau, Okla., Mr. McKenna was educated in the

public schools of Durant, Okla., and in the College of Business Administration of University of Oklahoma. He is a member of the Ark-La-Tex chapter of the American Society of Safety Engineers, the Central Accident Prevention committee of the American Petroleum Institute, the Arkansas Association of Safety Engineers and is First Aid chairman of the Union County chapter, American Red Cross.

DR. SEWARD MILLER has been appointed Chief of the Division of Industrial Hygiene, Public Health Service. He succeeds Dr. J. G. Townsend, who has been assigned to the Institute of Inter-American Affairs as chief of the Institute's field party in charge of health programs in the Republic of Panama.

For the past year Dr. Miller has served as regional director of the Federal Security Agency's Region V, with headquarters in Chicago. Prior to that appointment he was chief of laboratory services in the Public Health Service's Communicable Disease Center at Atlanta, Ga.

Born in Perry, N. Y., August 16, 1905, Dr. Miller received his B. S. degree in 1927 and his M. D. in 1931 from the University of Michigan, then served his internship in the Public Health Service. In 1934 he received a commission in the Reserve Corps and two years later was appointed to the Regular Corps.

Dr. Miller's early assignments were in the Marine Hospitals in New Orleans, San Francisco, Seattle, Norfolk, and Baltimore, where he specialized in pathology and laboratory work. He later spent five years in Atlanta developing the laboratory for the Communicable Disease Center. While at Atlanta, he established over 20 short refresher courses to train laboratory workers, both technicians and physicians, in the latest laboratory diagnostic methods.

JOHN F. RITHMILLER has been appointed to the home office engineering staff of Lumbermen's Mutual Casualty Company, Chicago. He recently completed seven years as safety engineer in the firm's Indianapolis office, prior to

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ROLLED STEEL FLOOR PLATE

This revolutionary ABRASIVE Floor Plate makes it possible for you to give your workmen the best non-slip protection against costly falling accidents.

A. W. ALGRIP is made by rolling abrasive grain, the same type used in grinding wheels, uniformly as an integral part of the upper portion of steel plate. Result: A floor plate that's non-slip even on steep inclines. ALGRIP requires no maintenance attention and wear exposes new abrasive particles so it keeps its gripping qualities. Wet or dry ALGRIP is non-slip. It's easy to keep clean and can be cut and installed overnight.

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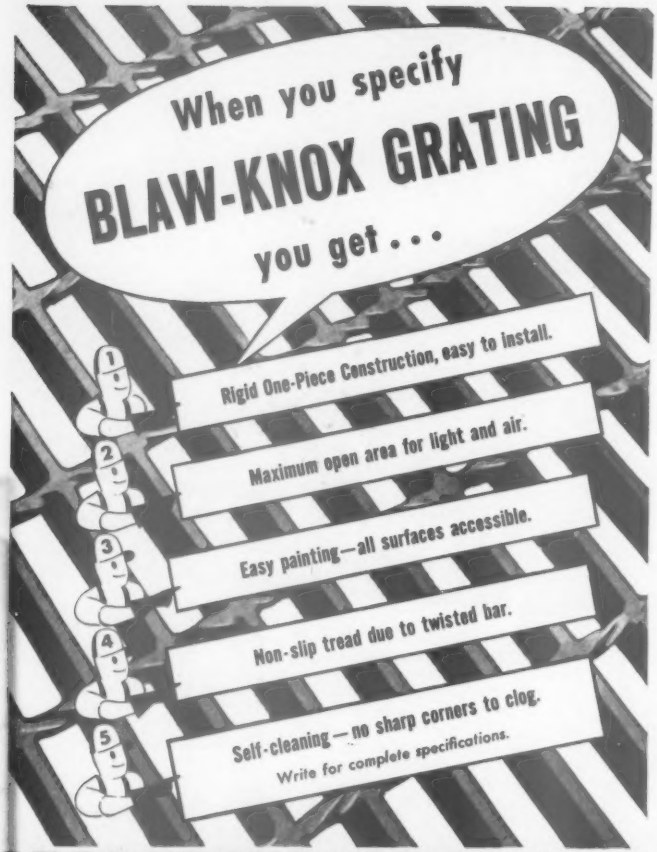
*17% of the 222 occupational injuries which occur every hour are due to falls. Source: National Safety Council's 1949 edition of Accident Facts.



BLAW-KNOX Electroforged
GRATING AND STAIR TREADS

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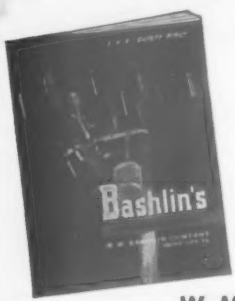
2078 Farmers Bank Bldg., Pittsburgh 22, Pa.



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Bashlin's new bulletin giving full details on Linemen's Safety Equipment is ready for you . . . a complete line from which to chose, and every one a champion. Write today!

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which time he had been in the Chicago branch safety engineering office.

After graduating in electrical engineering from Chicago Technical Institute in 1926, Mr. Rithmiller worked for the Illinois Central railroad, where he started as an electrical inspector and eventually became designer of overhead electrical distribution systems. In addition, he has designed electrical systems for consulting engineering firms. He is a member of the American Society of Safety Engineers, and has been secretary-treasurer of the society's Indianapolis chapter, which he helped to organize.

JOSEPH E. BUSKO, known as "Safety Joe" to friends in the accident prevention field, has resigned as fire marshall for Lit Brothers, Philadelphia, to become director of safety with the Midvale Company at Nicetown, Philadelphia.

Before coming to Lit Brothers he spent nine years with the Dravo Corporation, Pittsburgh, Pa., as Safety Superintendent of Fire Prevention and Protection. He is a member of the Philadelphia Chapter of the American Society of Safety Engineers.

THEO O. MEISNER, for many years safety director for American Can Company, is now located at 1060 N. W. 117th Street, Miami 38, Fla.

NSC Staff Changes

HOWARD WARZYN has joined the Industrial Department. He will be staff representative of the Air Transport Section and the Aeronautical Industries Section of the Council.

Mr. Warzyn comes to the Council after 13 years with American Airlines, where his last position was that of operations foreman. Prior to that he was technical assistant to the maintenance superintendent.

During his association with American Airlines, Mr. Warzyn had a varied and interesting career covering supervision and safety. Among the highlights of his experience were 32 trips across the Atlantic as a flight engineer.

FRED LUBET has joined the Industrial Department as a writer. He will work with the staff engineers in the preparation of data sheets, safetygraphs, and other publications.

Mr. Lubet is a graduate of the University of Pittsburgh. Before joining the Council, he was associated with Science Research Associates of Chicago as an editor.

ROBERT L. MOORE, senior engineer on the staff of the Industrial Department for the past six years, has resigned to become associated with Lumbermen's Mutual Casualty Company as engineering consultant on the home office staff in Chicago.

Mr. Moore was staff representative for the Construction Section and Cement and Quarry Section of the Council. He is a member of the Association Committee of the Industrial Conference and will continue in that capacity.

Obituary

ERNEST W. BECK

ERNEST W. BECK, supervisor of safety for the United States Rubber Company, died March 11 after and illness of two months.

Mr. Beck, who was dean of safety men in the rubber industry, was born in England, March 22, 1886. The following year he was brought to the United States by his parents.

Since 1920 he had been in safety and personnel work with the United States Rubber Company and in recent years had been in charge of safety work for all the company's plants. Previously he had been a teacher in vocational schools and during World War I had been in charge of a training department for the U. S. Shipping Board.

In the American Society of Safety Engineers he had held numerous offices, including that of general chairman. He was also active in the National Safety Council's Rubber Section, which he had served as general chairman. He was the Council's vice-president for Industry 1927-29, and had been a director from 1924 to 1942.

For Quick Action Consult Bradley Men Nearest You . . .

Albany 5, N. Y., Alexander Mitchell
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Oklahoma City 3 Okla., M. F. Fishell
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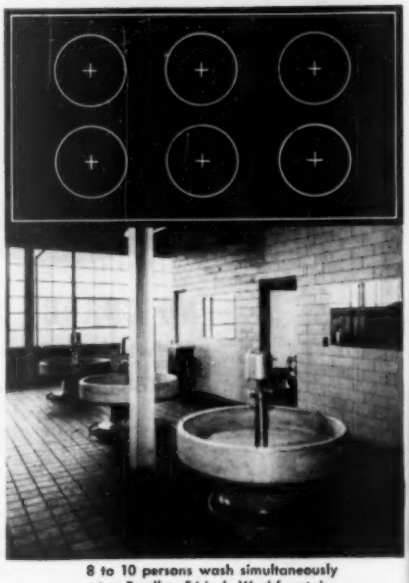
BRADLEY
Washroom Engineers
Ready to Help Plan Sanitary *and* Economical Washing Facilities



8 to 10 persons wash simultaneously at a Bradley 54-inch Washfountain.

As important as any Safety measure in your plant are employee washing facilities ... Bradley men can help you in washroom layouts to provide maximum facilities in minimum space.

They can show you how plants large and small throughout the nation have standardized on Bradley Group Washfountains, and explain how piping connections are reduced over 70 per cent along with water consumption and maintenance.

If, before calling in a Bradley man, you want further information, write for a copy of our 4-color Catalog 4701. There is no obligation. BRADLEY WASHFOUNTAIN CO., 2237 W. Michigan Street, Milwaukee 1, Wisconsin.

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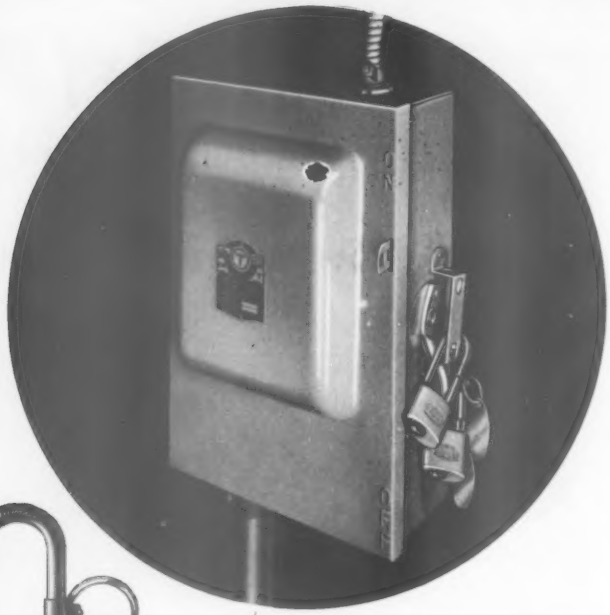
BRADLEY washfountains

Distributed Through Plumbing Wholesalers



NO CHANCE FOR ACCIDENTS

when EACH repairman uses a

CORBIN PERSONAL-SAFETY PADLOCK

There is no risk of a "forgotten man" when each electrical repairman, boiler cleaner, etc., locks out the switch or valve with his own Corbin *Personal-Safety* Padlock.

Corbin *Personal-Safety* Padlocks have disc tumbler mechanisms with 200 possible key changes. If desired, they can be furnished alike or master-keyed. A metal tag for employee's name or number is attached to the hardened-steel shackle.

We will gladly send you further information about Corbin locks for *Personal-Safety* systems or security systems — or we will help you work out such systems based on the specific needs of your plant.

BE SURE WITH

CORBIN

CORBIN CABINET LOCK

DIVISION

THE AMERICAN HARDWARE CORPORATION • New Britain, Conn.

DAV-SON BULLETIN BOARDS

This low cost, changeable letter Bulletin Board carries your important safety messages to every employee. Messages can be changed quickly and easily, even by inexperienced persons.

Write for Special Circular

We manufacture the famous DAV-SON Cork Back Pin-Up Bulletin Boards, Special Safety Displays, Lobby Directories and Name Plates for every purpose.

DAV-SON

A.C. DAVENPORT & SON, INC.

ESTABLISHED 1932

311 N. DESPLAINES ST., CHICAGO 6, ILL.

Two-Way Channels

—From page 71

wonder in how many companies these fellows report to different executives, and to what extent their allied objectives are not coordinated. Perhaps the small business man is less confused; he will have one specialist for the lot, or do the job himself. Then he can put every channel to fullest use.

Some managers still think of safety in terms of fire extinguishers, hard hats, machine guards, non-skid swivel chairs for brass hats, and other gadgets. But even with such safeguards, most of us have found that safety also involves attitudes that can be improved by human engineering. Thus safety promotion is largely a matter of training, one that fits hand-in-glove with modern programs of employee training and goodwill building.

A manager or superintendent uses poor judgment when he relegates his safety engineer to a mere junior who must look to safety engineers in other firms and other outside sources for guidance and inspiration. These men, who can be so valuable in promoting company work, merit the status of senior assistants. As such, they should be encouraged to offer advice in the formulation of personnel policies and the planning of new jobs, as well as in their execution.

Our safety engineers and first-aid instructors have had practical pipe-line experience and have been selected for their judgment and personality. They are well-qualified to represent the area or head office management in the field and to safeguard the welfare of the workers with whom they are associated.

Employee training, good will building and safety promotion are logical parts of the industrial relations program. In fact, they should be dominant parts. Perhaps industrial relations managers should spend more time keeping and improving the good will of the rank and file toward the company.

The safety program cannot replace special effort to improve these factors. But it can create a healthy atmosphere for their development.

And it would be unfair to arrogate to the safety contacts all the good that can be done with letters from the boss, the company magazine, posters, and the like. They should be continued. But none of them provides the priceless personal contacts that get across so many vital messages, nor do they afford a medium for reciprocal expression by the workers.

Home Safety Merit Awards for 1951

Report forms for the 1951 National Home Safety Merit Awards will be distributed to applicants early in June. The 1951 awards will cover the year July 1, 1950 to June 30, 1951. The awards, though non-competitive, are open to any national, state, or local agency, institution, or group which has conducted a home safety program or project during the period covered.

There will be two report forms this year—one for Award entries, and another for Honorable Mention activities. The Award is for organizations which can conduct all-around home safety programs, the Certificate for those necessarily limited in nature to one or more projects.

Industrial companies which conducted home safety education as part of their employee off-the-job program during the period covered are eligible to report these activities for consideration for a home safety merit award.

The first national Merit Awards for exceptional public service in the prevention of home accidents were won last year by eight local and one state safety council, one local health department, and a civic organization. Two Red Cross Chapters, a State Extension Service, and a local Girl Scout Council were recognized also with Certificates of Honorable Mention for meritorious activity in home safety education during the year 1949-1950. These awards were presented last October at the National Safety Congress in Chicago.

The information provided by this program has enabled the Conference and NSC staff to improve their national program-planning and home safety services to communities all over the country.

Largest Exclusive Refrigerator Manufacturer reports:

50% SAVING IN MATERIALS

for office floor care since switching to the

MULTI-CLEAN METHOD

About a year ago the Seeger Refrigerator Co., St. Paul, Minn., began treating their asphalt tile floors with Multi-Clean Asphalt Tile Preserver. This single treatment (no wax used) is applied four times a year and replaces wax applications which were necessary two and three times a month to achieve the continuing beauty and cleanliness desired.

"Now we have good looking floors all the time," says the Maintenance Director, "yet we spend 65% less time maintaining them, and have cut our material costs in half."

THE MULTI-CLEAN METHOD APPLIES TO OLD AND NEW ASPHALT TILE FLOORS, adds years to their life, imparts a new beauty-clean appearance and sure footing. The Seeger offices including a hospital and cafeteria, represent nearly 20,000 sq. ft. of old and new asphalt tile, and the same easy, economical Multi-Clean Method is applied to both.

(A) APPLICATION: A thorough scrubbing with the floor machine and No. 0 steel wool pad precedes each application of Multi-Clean Asphalt Tile Preserver.

(B) MAINTENANCE: Dry dust mopping daily; damp mopping with cold water followed by machine buffing with No. 0 steel wool pad every 3 to 4 days.

(C) RESULT: Beautiful, clean, anti-slip floors packed with service and long wear.

FREE—FLOOR MANUALS

Handy reference file size, each manual deals with a specific floor and its proper care . . . asphalt and rubber tile, terrazzo, concrete, wood, linoleum.

Multi-Clean Floor Machine

Multi-Clean Wet-Dry Vacuum

MULTI-CLEAN®
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Multi-Clean Products, Inc.
2277 Ford Parkway, Dept. 36D, St. Paul 1, Minn.

Gentlemen: Tell me how I can cut my floor maintenance costs. I would like the floor manuals on:

_____ floors.

Name _____

Address _____

City _____ Zone ____ State _____

Custom Cleaning Chemicals • Floor and Rug Machines • Permanent Floor Finishes • Industrial Vacuums

Industrial Health

—From page 59

Baltimore hospitals in comparison with the distribution by occupation of other types of cases in the same hospitals. In this series only cases are included which have a diagnosis of cancer of the lungs or bronchi confirmed by histopathological examination.

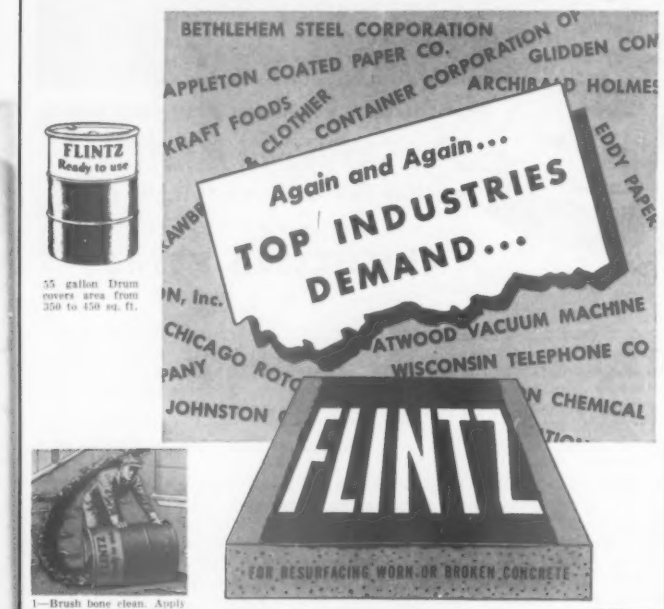
Eleven of the lung cancer patients in two hospitals in the past 15 to 20 years have had occupational exposure to chromium compounds and ten of these had worked in a Baltimore plant producing chromate. No patients in any control groups had reported any occupational exposure to chromium compounds.

Statistical analysis indicated that the percentage of lung cancer patients who had been exposed to chromates was significantly higher than would be expected on the basis of the control groups. The size of the difference and the precautions taken to eliminate the possible coincidental errors in the statistics make it unlikely that these statistics do not indicate a real tendency toward lung cancer due to exposure to chromium compounds.

Diet and Toxic Exposures

The Relation of Nutrition to Susceptibility to Toxic Substances. By Maurice E. Shils. The American Journal of Public Health and the Nations Health 41:417-423 (April 1951).

The question of the relation between nutrition and the action of toxic substances has been puzzling for a long time. In industry the primary effort has been and should be toward the elimination of the toxic material from the environment. There have, however, been efforts to change the toxic effects by diet. For instance, the practice of giving extra quantities of milk to lead workers has been carried on for generations with no particular evidence that it has ever done any good.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FOR RESURFACING WORN OR BROKEN CONCRETE
FLINTZ
Ready to use
55 gallon Drum covers area from 350 to 450 sq. ft.
1—Brush bone clean. Apply bonding agent. Flintz spreads like wet sand from drum or buckets.
2—Straight-edge Flintz thinly about ¼" thick evenly over area desired. Feather edge outer brim.
3—Start Roller over newly laid Flintz a few times and let your trucks roll over it.

"Keep 'Em Rolling"..

On low traction FLINTZ the thin section surfacer that provides hard, smooth floors. *FLINTZ KEEPS PRODUCTION ROLLING* on even low-traction surfaces. Hand or gas propelled trucks continue to roll even after pulling has stopped. FLINTZ spreads easily (not more than ¼") over wide areas economically without interruption to traffic or production.

Flintz Is Ready-Mixed for Instant Use

It spreads thinner, goes farther, costs less and gives years of hard wear and service. The thin edges will not give way. ALL DURA-TRED products are guaranteed as represented.

Write for complete information.

dura-tred Co. 361 No. Central Park Blvd., Chicago 24, Ill.

YOUR EMPLOYEES NEED SALT

TO COMBAT HEAT FATIGUE

FURNISH THEM

PEP-UP

ENTERIC COATED SALT TABLETS

- PEP-UP are the original patented ENTERIC COATED salt tablets.
- Will not cause nausea or salt sickness.
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- Meet government specifications for Type III Class B Enteric coated salt tablets.

EXPENDABLE DISPENSERS—PEP-UP TABLETS come to you in sanitary factory sealed dispensers at no extra cost. Throw away dispensers when empty—Hang up a new one. Save the cost of purchasing, cleaning and refilling dispensers.

United States Safety Service Co
KANSAS CITY 6, MO. · BRANCHES IN PRINCIPAL INDUSTRIAL CITIES

In Canada — PARMELEE LTD. — Toronto

There was an attempt in 1917 to reduce the cases of TNT poisoning in an English ordnance plant by controlled diet. It was claimed that the program was markedly successful, but the evidence upon which the claim was based is extremely unconvincing because of the lack of any controlled group, the wide variation in sickness rates in the plant from month to month, and the absence of any attempt at control measures.

Recently there have been controlled animal experiments on the effects of various nutritional substances to quite a large number of toxic materials which are commonly used in industry. Most of the real progress in this field has been made in the past 10 to 12 years since good synthetic diets have been available for raising experimental animals.

It has been demonstrated that the susceptibility of various animals to severe liver damage by chlorinated hydrocarbons is markedly increased by a diet of low protein content. While raising the protein content from not quite sufficient to a sufficient amount for maintaining weight increases the resistance of the liver to damage by chlorinated hydrocarbons, further increase is not necessarily protective. It produces increased protection against ethylene dichloride but does not produce any increased protection against emetine, and an excessive level of protein in the diet may increase the damage in the case of carbon tetrachloride poisoning.

It is also pretty well established both by animal experiment and by some experiments on men that a number of common toxic compounds can produce increased excretion of vitamins. Examples are benzene, carbon tetrachloride, dinitrotoluene, and TNT. While they do increase the excretion of vitamins, the addition to the diet of relatively large amounts of vitamins does not increase the resistance to the same industrial poisons.

It has been demonstrated that the use of pyridoxine or treatment with cysteine will reduce the sickness from radiation exposures.

It is safe to say now that various deficiency states increase the susceptibility to a number of toxic

install SIGHT SAVER CLEANING STATIONS

PROMOTE SAFETY • IMPROVE MORALE
INCREASE PRODUCTIVITY

Dirty eyeglasses, like dim lights and dull tools, are hazardous and inefficient. Make clean glasses a habit in your plant and office. Install SIGHT SAVER CLEANING STATIONS to dispense Sight Savers, the Dow Corning SILICONE treated tissues that are recognized around the world as the best, the easiest and the most convenient way to clean, polish and protect eyeglasses and safety goggles. Let Sight Savers wipe away the best excuse men give for not wearing safety glasses.

PUT SIGHT SAVER CLEANING STATIONS TO WORK FOR YOU

Leading Safety Supply houses in all principal cities are fully stocked with Sight Saver cleaning stations ready to serve you.

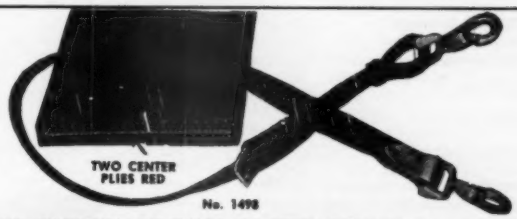
No. 60 *Black Dispenser* . . . $2.50
No. 61 *White Dispenser* . . . $2.50
No. 65 *Refill Packet containing 800 sheets* . . $1.45

NO MUSS • NO FUSS • NO FLUID

Attractive all-metal SIGHT SAVER cleaning stations are easy to install . . . easy to service. Fool-proof, permanently lubricated mechanism dispenses one 3 in. x 7 in. tissue at a time; each tissue scientifically treated with SILICONES made by Dow Corning, the world's first and largest producer of silicone products and silicone treated tissues.

DOW CORNING SILICONES

DOW CORNING CORPORATION MIDLAND, MICHIGAN



NEW! BUHRKE NYLON SAFETY STRAP—ULTRA FLEXIBLE

Light weight, SAFE, uniform flexibility—even at −28° F.—strap remains soft and pliable; in 2 styles, No. 1458 with slide buckle, and No. 1498 (above) with tongue buckle. Made of NYLON FABRIC, 1¾" wide, 6 ply. Full cross section breaking strength over 5,000 lbs., buckle hole strength over 600 lbs. SAFE to use until RED PLY appears. Complete controlled fabrication of strap in our plant. Write . . .

R. H. BUHRKE CO., 4701 W. Grand Avenue, Chicago 39, Illinois

substances. In industrial situations involving exposure to these toxic substances it would be extremely advisable to pay special attention to the provision of an adequate diet for each workman.

Enough is also known now to make it clear that it is not safe to carry over what has been learned about the effect of diet on the effects of one toxic substance to effects on another toxic substance.

Improved Treatment of Eye Wounds

Use of ACTH, Cortisone, and the antibiotic drugs have made a 'tremendous improvement during the past ten years" in the treatment of eye wounds among industrial workers, said Dr. Edmund B. Spaeth, of Philadelphia, at the annual conference of the National Society for the Prevention of Blindness.

Dr. Spaeth pointed out that ACTH and Cortisone have been shown to be effective in treating sympathetic ophthalmia—loss of vision in one eye that sometimes occurs following serious injury to the other eye.

He added that the antibiotics—streptomycin, terramycin, etc.—now make the danger of secondary infection following an eye injury almost inconsequential.

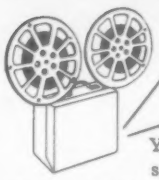
Discussing eye injuries from a metallic substance in the eye, Dr. Spaeth described the use of small and large magnets to draw the metal object from the eye. Before using the magnet, the surgeon must determine whether the substance is magnetic, and its general location in the eye.

A good industrial vision program, he concluded, should include these three points:

1. Visual analysis of all workers.
2. Job placement according to visual skills.
3. Treatment, rehabilitation and replacement of workers who suffer eye injuries.

SHOW THIS MOVIE FREE

SAFE EXIT



You can do a fine educational job in behalf of safety by showing "SAFE EXIT," a 20-minute, 16 mm, black and white sound movie, prepared for you—*absolutely free*—by the makers of Von Duprin Fire and Panic Exit Devices.

"SAFE EXIT" is a true public service film—not a product story at all—dramatically filmed and edited for the layman to understand—and benefit by. Use this film as the basis for a lively safety program in your plant.

You pay nothing—not even postage—to show "SAFE EXIT" in your community. Simply fill out and mail the handy booking request below.

VONNEGUT HARDWARE CO.
VON DUPRIN DIVISION
Indianapolis 9, Indiana Date .....

YES, we wish to show the 16 mm, sound, B & W movie, "SAFE EXIT."

Date Desired: ..... or .....
(PLEASE LIST ALTERNATE)

Type of Audience: .....
(SCHOOL, L. NCHEON CLUB, TRAINING, ETC.)

Expected Attendance .....

We understand film is absolutely rent-free, postage paid.
We agree to return film the day following our showing.

Organization .....
Authorized by .....
Address .....
City ..... State .....

Von Duprin PANIC DEVICES FIXTURE SAFE EXIT ®

BETTER PROTECTION AT LOWER COST

. . . with KENNEDY INDUSTRIAL APRONS

Made finer for serviceability and wear of the best in clear, pliable "Vinylite" plastic. Offers excellent protection from oils, acids, water and abrasives. The ideal low cost industrial apron for the many shop and laboratory jobs wherein better protection from corrosive materials is needed.

Kennedy aprons also available in cloth, leather, asbestos, rubber and Neoprene—for all industrial uses.

Write Dept. S for Full Information On All Apron Styles and Materials.

V. E. KENNEDY CO.
3735 NORTH 35TH STREET
MILWAUKEE 16, WISCONSIN

Carbon Tetrachloride

—*From page 39*

coma. Death occurs one or two weeks later as a result of injury to the liver and kidneys.

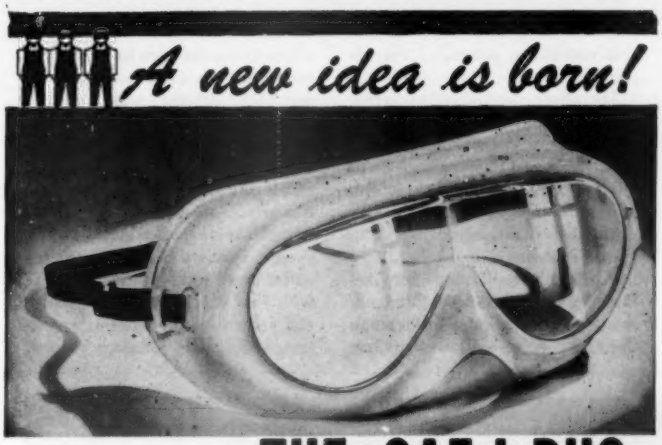
In those cases which do not terminate fatally, recovery is usually complete. There is, however, one exception in that there may be partial residual damage to the central nervous system. This damage is permanent in nature since the central nervous system is unable to rebuild or restore such destroyed tissue. As previously stated, concentrations of 24,000 parts per million frequently result in delayed death. On the other hand, 30 minutes' exposure to carbon tetrachloride concentrations over 64,000 parts per million may be fatal immediately.

Chronic Poisoning

The most common type of carbon tetrachloride poisoning in industry is the chronic form. This type of poisoning results from repeated exposures to concentrations in the atmosphere above 50 parts per million but below the amount which will produce acute poisoning. It may also result from repeated contact of the liquid carbon tetrachloride with the skin and the subsequent absorption by the subcutaneous fat. Chronic poisoning produces local irritation of the mucous membranes, headache, fatigue, dizziness, nausea, vomiting, diarrhea, loss of strength, pain and tenderness in the liver region and jaundice. The urine is scanty in amount and on analysis is found to contain large quantities of albumin and casts. Sugar may also be present in the urine due to failure of the kidney tubules to reabsorb this substance. As the output of urine decreases, the signs and symptoms of uremia predominate the picture.

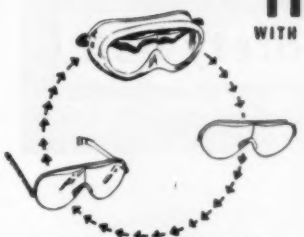
In those cases which terminate fatally, death is usually due to this latter condition.

Poisoning in which either the liver or kidneys are involved, but which does not terminate fatally, requires several weeks to several months for complete recovery. Cases of permanent disability are extremely rare due to the remark-



THE SAF-I-DUO

WITH ONE PIECE INTER-CHANGEABLE LENS



Lens inter-changeable with SAF-I-SPEC or SAF-I-DUO

- Full protection from Impacts, Chemicals and Dust.
- Velvet-soft VINYL frame fits contour of all faces snugly.
- One piece lens made of OPTILITE® is optically correct.
- Meets Federal Specifications for impact resistance.
- Four types of ventilation (dust, chemicals, fogging, etc.).
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HOW SAFE are YOUR EMPLOYEES?

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able restorative powers of the organs involved.

The liver probably performs more functions than any of the other organs of the human body. Any permanent impairment to this important member, therefore, can result in the decreased health of the individual; and, if the damage is extensive, in death.

While we have thus far discussed the problem from the standpoint of the normal individual, there are certain individuals for whom this is an even more serious problem. We refer to those individuals afflicted with obesity, previously existing liver disease, or kidney trouble. Chronic alcoholics, because of the toxic action of alcohol on the liver, are particularly susceptible to carbon tetrachloride poisoning. Experience has shown that these groups suffer more seriously from contact with this substance than do normal individuals. The best precaution to be taken for such persons is the complete elimination of exposure to carbon tetrachloride.

In addition to the systemic effects just described, carbon tetrachloride has still another direct action on the body, namely on the skin itself. Due to its solvent properties, carbon tetrachloride, on direct contact with the skin, removes the natural oils. This loss of oil results in the development of a dry, scaling, fissure-like dermatitis in which the skin becomes cracked and broken. Organisms of various types readily enter through these breaks in the skin and set up secondary skin infections of varying degrees of severity.

Decomposition Hazards

Thus far we have considered the health hazards due strictly to the toxic action of carbon tetrachloride as such. Let us now turn our attention to the health hazards due to toxic products resulting from the decomposition of carbon tetrachloride in certain of its applications. All of us are no doubt familiar with the use of carbon

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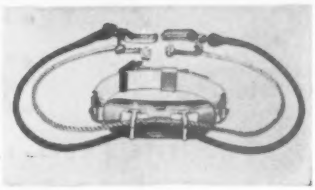

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tetrachloride as a fire extinguisher. We should be aware of the limitations within which such equipment can be used safely. Aside from its inadequacy for certain types of fires it is quite hazardous when employed in confined areas due to its production of phosgene gas. Phosgene gas is produced when carbon tetrachloride, or other chlorinated hydrocarbons, combines with oxygen in the presence of an open flame.

Because of its use as a poisonous gas during World War I, the toxic properties and various effects of phosgene are well known. On the basis of this knowledge it has been determined that the highest endurable concentration of phosgene for prolonged exposure is one part per million parts of air. Concentrations of five parts per million for one minute are unendurable, and concentrations of from 5 to 25 parts per million, for 30 minutes, are capable of producing immediate or subsequent fatality.

Phosgene is not, in itself, an irritating gas. It has an odor which is variously described as resembling that of musty hay, putrefying fruit, decayed leaves, or green corn. However, this odor is not readily detectable in concentrations below five parts per million. Because it is non-irritating, phosgene penetrates deeply into the lungs where it reacts with the moisture normally present in the tissues to form hydrochloric acid. The highly irritating acid thus formed causes the liberation of large amounts of fluid within the lung which fills the air spaces, thereby causing the victim to literally drown in his own body fluid.

It is highly significant that phosgene poisoning frequently has a latent period which is usually of several hours' duration. During this period the exposed individual will have few or no symptoms to indicate the serious danger with which he is confronted. This latent period is followed by marked shortness of breath, cyanosis, and a rattling or bubbling type of breath sound. Physical exertion

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These are a few of the many features that make Bennett Bilt Waste Receptacles a natural "buy." Quality and every consideration for hard usage are self-evident both inside and outside of these receptacles.

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Independently hinged doors
High tension springs keep doors closed
Burlap bags or galvanized liners are quickly removed

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CUSTOM METAL CRAFTSMEN SINCE 1906

following exposure to phosgene shortens the latent period and materially increases the injurious effects of the phosgene.

Since phosgene gas can produce damaging effects from even small quantities present in the air, it is necessary to recognize in advance where the possibilities of producing phosgene may occur. Medical literature cites many instances of acute phosgene poisoning which have resulted from contact of small amounts of various chlorinated hydrocarbons with the open flame of a welding torch, gas burner, or electric arc. Precautions are definitely in order where chlorinated hydrocarbons are in use near open flames.

In conclusion we would like to present briefly a few precautions which will greatly reduce the health hazards arising from the use of carbon tetrachloride. First, avoid contact of chlorinated hydrocarbon vapors with all types of open flame. Second, avoid contact of solvents with the unprotected skin through the use of impervious gloves or barrier protective creams which can be purchased on the open market. In this connection, should the clothing become saturated with solvents of this type the individual so exposed should take a bath immediately and change to clean clothing.

Additional precautions require the maintenance of atmospheric concentrations of carbon tetrachloride below 50 parts per million in all applications. To accomplish this avoid processes which necessitate spraying carbon tetrachloride. Do not permit cans or drums of solvent to stand open. Assure yourself that the ventilation is adequate. Remember, "If you can smell it, it is unsafe."

When in doubt, make determinations of the atmospheric concentration. If in spite of these precautions, the concentration of 50 parts per million is exceeded, it is recommended that the ventilation be increased to effect adequate dilution of the vapors. Where this procedure does not accomplish the desired result, approved respiratory protection must be resorted to. In some cases it

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may be further possible or advisable to substitute one of the less toxic chlorinated hydrocarbon solvents such as trichlorethylene or perchlorethylene.

Many problems of working environment and industrial hygiene have been solved either by substituting a material of lower toxicity for the undesirable one or, if no substitute is available, by employing suitable precautions in the use of a potentially toxic material. We are confident that worthwhile progress in this direction is being made.

War and Flu Boost Male Death Rate

Korean war deaths caused a sharp rise in mortality among American males of military age during the first three months of 1951, according to Metropolitan Life Insurance Company statisticians. Among the company's male industrial policyholders at ages 20-24 the mortality rate was about 50 per cent higher than it was for the first quarter of 1950.

As a result of the Korean war losses and a widespread outbreak of respiratory disease at home, the death rate for males at all ages was five per cent higher than that for the same period last year. In contrast, for females the rate was lower by a fraction of one per cent.

Concerning the respiratory outbreak, which brought higher death rates from both pneumonia and influenza, the statisticians report, "There were fears at the beginning of the year that the epidemic, which affected large areas of the world, might prove to be catastrophic in character. These fears are now allayed by the subsidence of the outbreak."

Mortality from the diseases of the heart and blood vessels, and from cancer and diabetes, was higher than last year for the three-month period. Part of the increase, it was noted, probably resulted from the high prevalence of the respiratory diseases.

Tuberculosis, however, continued its downward trend, with a

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Unit No. 2 for mounting on walls, columns and posts.

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Combination Foot-Shin Guard

Foot Guard Equipped With Anti-Skid Full Sole

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SALT TABLETS
RELEASE SALT IMMEDIATELY
(Not Enteric Coated)

- Will not cause salt sickness or nausea
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These tough-hided gloves will knock your costs for a loop on the rough jobs. Tops in chemicals, too. Man-sized, comfortable curved fingers. All standard styles. Ask your distributor, or write direct. Dept. S—

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CARROLLTON, OHIO IN CANADA: Safety Supply Co., Toronto, Ont.

death rate one fifth lower than the previous all-time first-quarter minimum recorded in 1950. Likewise, new low first-quarter rates were established for the principal communicable diseases of childhood, the complications of pregnancy and childbirth, and for appendicitis and gastritis.

Fatal accidents were somewhat higher than in 1950, although the death rate from motor-vehicle accidents showed a slight decline. The increase is due in part to a rise in occupational fatalities. Suicide and homicide both show a slight decline.

Standards Liberalize Building Code

A national standard, arrived at through the procedures of the American Standards Association, is credited with helping to break down restrictions in local building codes and to build a peacetime market for acrylic plastics that is now paying off in the country's rearmament program. F. J. Rarig, Rohm & Haas Company, writing in *Standardization*, for May, points out that modern aircraft fly at almost twice the speed of the aircraft of World War II and at altitudes which subject their huge acrylic canopies to tremendous strain. "Thanks to a peacetime market," he says, "we can, without delay, supply the requirements of our air force for tremendous quantities of huge acrylic plastic sheets capable of meeting the demands of jet planes."

The end of World War II threatened to liquidate the huge investment in facilities and skills built up during the war for the production of acrylic plastics. Postwar market research, however, showed a possible large-volume market for acrylic sheets in the electric sign field which would maintain production during peacetime. However, building codes prevented the use of plastics for electric signs as potential fire hazards.

Research carried out at Underwriters' Laboratories on request of Rohm & Haas Company showed acrylic plastics to be slow-burning material. With this information at hand, the committee on outdoor signs and display structures of the American Standards Association accepted slow-burning plastics as

an approved material for the manufacture of letters, decorations, and facings of outdoor signs and displays. In the 1949 edition of the *American Standard Building Code Requirements for Signs and Outdoor Display Structures*, approved plastics were defined by reference to American Society for Testing Materials standards. A formula limiting the area in which such plastics may be used was accepted in accordance with recommendations of the National Fire Protection Association.

The American Standard and reports of the tests were brought to the attention of building officials throughout the country, with requests that local building code standards for electric signs be revised along the lines established in the American Standard.

"In city after city, the officials have received our data, frequently supplemented it by independent laboratory tests, and approved the use of acrylic plastics according to the formula established by the American Standard," Mr. Rarig reports.

Before and After Eye Safety Program

During the first seven years of the Sperry Gyroscope Company's eye safety program, "not one eye has been lost in our machine shops and foundry, and not one serious eye injury resulting in partial loss of sight has occurred."

But during a nine-month period before the program was started, "a total of six eyes were lost and 56 serious eye injuries were reported, many resulting in partial loss of sight."

This report was made at the annual conference of the National Society for the Prevention of Blindness by Dr. Herman Sager, optometrist, who is supervisor of eye service for the Sperry Company.

From January through August 1943, Dr. Sager told the conference, the six lost eyes and 56 serious eye injuries which occurred at Sperry "entailed an expenditure of over $200,000 in direct and indirect costs and approximately 700 work-days were lost."

Since 1944, Dr. Sager con-

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Here, at last, is a light weight, plastic safety helmet, resistant to 3,000 volts of electricity, and by actual test, able to sustain 80 foot pounds under ball impact. What's more, the Paramount safety helmet is light as a feather—comfortable, waterproof, adjustable to head sizes (6½ to 8), and with enough clearance space between head and helmet crown to cushion and absorb intense impact. Genuine leather suspension band has long life and stands up under years of use.

For Use in Mines

A miner's lamp bracket, adaptable to every type of lamp, can be furnished either on helmet or cap. Being entirely a non-conductor of electricity, this is the safest miner's helmet available.

Winter Lining

For increased warmth, a two piece lining with a flannelette facing is provided. The lining is sanforized, warm, and is made in a full range of head sizes.

As the producers of millions of M1 Army helmet liners, the famous Cairns-Paramount Firemen's helmet, the Army, Navy and Civilian Air Corps crash helmet for jet pilots and other air corps personnel, the Army Quartermaster Tank Corps helmet, we are specialists in this field and offer you greater protection with lighter weight.

The Paramount helmet and cap are produced under one or more of these patents—No. 2-420-522, No. 2-423-076, and other patents are pending.

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Brady Safety Signs are made of durable cotton cloth, Silicone Coated to resist dirt, grime and moisture. CONFORM TO ASA Standard Z35.1-41. Select your requirements from a complete catalog of standard safety messages. Cost only a few cents per sign. Immediate delivery. Specials made to order.

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tinued, "we have accumulated 72 pairs of smashed safety glasses, all of which might have resulted in a potential eye loss. There probably have also been numerous cases where the impact of a foreign body might have been enough to damage severely an unprotected eye, but was not severe enough to damage the safety lens, and are therefore never reported . . . "

Dr. Sager praised the effects of the Wise Owl Club on Sperry's eye safety program. The Wise Owl Club, which is sponsored by the National Society for the Prevention of Blindness, is composed of workers who can prove—usually by submitting damaged safety glasses—that their sight was saved by wearing the goggles.

By wearing the insignia of the club on their overalls, Wise Owl Club members serve as a constant reminder to fellow workers that goggles are not a needless nuisance on the job.

Since the inception of the eye safety program, Dr. Sager has refracted more than 18,000 employees. He pointed out that "to properly refract these employees, the optometrist has to make a careful survey of the job demands." He must consider factors of work distance, illumination, eye movements, height of machines, position of employees at jobs, etc., before he can prescribe glasses.

New Device to Aid Coal Mine Safety

Development of a non-explosive device for breaking down coal has been announced by the Du Pont Company. It is "Chemechol," a chemico-mechanical device which breaks coal from a mine face by the force of compressed gas generated by chemical reaction within the device and released mechanically.

The new device consists of a steel tube enclosing a chemical unit. The tube is closed at one end by a plug having electrical connections, and at the other end by a rupturable disc held in place by a perforated head. After the tube is placed in a hole drilled in the coal face, the chemical reaction is activated by an electrical current controlled within narrow limits. Heat is produced, which, after a few seconds, destroys the starter

wire, thus breaking the electrical circuit.

The chemical reaction thereafter continues to liberate gas which builds up to a predetermined pressure, at which point the disc ruptures. The gases rush out through the ports in the head and break down the coal. The tube, refilled in the mine with another chemical unit and disc, is used repeatedly.

"Chemechol" produces no flame. It cannot be activated by small electrical currents, such as stray currents, nor by high currents such as mine lighting or haulage circuits. "Chemechol" units cannot be detonated by blasting caps or high strength dynamite.

New Federal Safety Council Organized

The organizational meeting of the Federal Safety Council was held April 18. Created by Presidential Executive Order No. 10194 of December 20, 1950, the Council replaces the old Federal Interdepartmental Safety Council, and is charged with the obligation of advising the Secretary of Labor in developing and maintaining effective safety organizations and programs in Federal agencies.

The meeting was opened by Secretary of Labor Tobin, who pointed out that the Federal Government will pay an estimated 33 million dollars to employees injured on the job in 1950.

William I. Connolly, director of the Department of Labor's Bureau of Labor Standards, designated Council Chairman by the Secretary, presided.

Other officers elected were:

Vice Chairman—Charles A. Peters, General Services Administration.

Advisory Committee—

For 1 year—T. Roy Reid, Department of Agriculture; F. C. Waller, Atomic Energy Commission; Col. Will L. Tubbs, Department of the Air Force.

For 2 years—James V. Bennett, Department of Justice; C. Spencer Platt, Bureau of the Budget; Roland H. Wooten, Government of D. C.

For 3 years—Gerald Ryan, Department of Commerce; Willard A. Anderson, Government Printing Office; Edgar B. Jackson, Post Office Department.

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FOR MAINTENANCE WORK

Gold Medal Safety
PLATFORM LADDER
(Approved by Underwriters Lab. Inc.)

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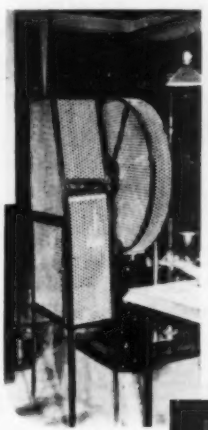

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Your own maintenance personnel can make any size or shape of Guard for the protection of belts, gears and moving parts from these "UL" approved parts at a saving—no special tools required. Our perforated angles and bands are reinforced at corners with our gussets to make the framework which is covered with sturdy perforated sheets. For floor mounting detachable floor posts and sockets provide easy removal.

Properly constructed, your guards will prove sturdy, permanent fixtures with smooth surfaces and good visibility and ventilation. They will be readily approved by safety inspectors. Ask for complete information.

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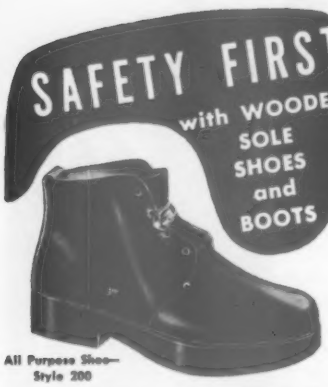

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DAVENPORT wooden sole shoes are resistant to heat, water, dust, oil, and acid. They give proper foot arch support and complete protection with comfort. Used on wet, cold, slippery or intensely hot floors, wooden soles are superior to leather, composition, or rubber soles. Wooden sole shoes cost much LESS, and wear much LONGER.

DAVENPORT wooden sole shoes are available in many styles for men and women—in sizes 5 to 12—to meet individual industrial problems. "PROTECTO" Safety Steel Toe of high carbon steel optional.

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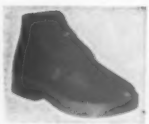
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POISON IVY

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For more than a decade IDU Skin Lotion* has been giving outdoor workers—linemen, utilities workers, gardeners and foresters—the protection they need from poison ivy and poison oak.

These two spring and summertime hazards to health and efficiency will soon become troublesome. Be prepared. Don't let these irritating conditions develop—use IDU for their prevention. Order now.

* Used for More Than 10 years by Wisconsin Public Service. Available at the following prices to public utilities: 4 oz. bottles, $6.00 a doz.; 8 oz. bottles, $10.00 a doz.; 1 pint bottles, $16.00 a doz. FOB Wausau, Wis.

Send us a penny post card for a generous free sample.

I. D. U. PRODUCTS CO. WAUSAU, WIS.

Calendar Contest Winners For April

First prize in the National Safety Council's Safety Calendar Contest goes this month to Ruth Field of Wilmington, Del. The theme of this month's contest was dress for safety. Miss Field's limerick was judged best of all those submitted. It was:

So Kay changed—and she's still cute today.

Second prize went to Mrs. Laurie J. Maki of Virginia, Minn., for this limerick:

That's no "flounce" of prevention, I'd say!

Third prize was awarded to John Gabor, Jr. of East Chicago, Ind., for the following limerick:

More loving words, he cannot say.

Thirty $5 awards were issued to:

Ruth Paris, Lynchburg, Va.
Alice Lester, Lewistown, Ill.
Carmen Gonzalez, Washington, D. C.
Mrs. J. A. Cochrane, Ajo, Ariz.
Mrs. F. H. Gilbert, Kingsport, Tenn.
Mrs. Wilford B. Price, Jr., Grove City, Ohio.
Warrick E. Lee, Carbondale, Pa.
Mrs. Marian L. O'Brien, American Potash & Chemical Corp, Trona, Calif.
Mrs. A. L. Handley, Atlanta, Ga.
Mrs. J. H. Ervin, Silverton, Ohio.
Mary L. Sanborn, Consumers Power Co., Kalamazoo, Mich.
Mrs. V. G. Feldbauer, St. Mary's, Pa.
L. V. Longhway, Calculator Equipment Co., Oklahoma City, Okla.
Joe Gottesman, Los Angeles, Calif.
Thelma Faye Bement, Wichita, Kan.
Janet Johnson, Rockford, Ill.
Martin C. Mitchell, Westbury, L. I., N. Y.
Mrs. Ann Dunn, Dallas, Tex.
C. F. Lackey, Riverside, Calif.
Fritz Ludolph, Freeport, Ill.
Mrs. Franklin Gordon, Falls Village, Conn.
Donna Meerdink, Merrill School, Oshkosh, Wis.
Mary Dyer Lemon, Ft. Lauderdale, Fla.
Mrs. Henry H. Vining, East Canaan, Conn.
Mrs. Paul W. Blakeslee, Jr., Mid-States Steel & Wire Co., Crawfordsville, Ind.
Mrs. Ruth Summer, Long Beach, N. Y.
Lilly L. Simmonds, Lowell, Mass.
Mrs. C. H. Stone, Macon, Ga.
Mrs. Theodore F. Porowski, Ramey Air Force Base, Puerto Rico.
Raymond Dreyfack, New York, N. Y.

Poise is that quality which enables you to buy a pair of shoes without seeming conscious of the hole in your sock.

Angry bus passenger: Lady, what do you mean by letting your child grab my wig?

Mother: Oh, I'm so relieved! I thought he'd scalped you.

AN ANNOUNCEMENT OF IMPORTANCE TO AMERICAN INDUSTRY

NOW AVAILABLE

direct from one of America's leading producers of industrial lenses

PENOPTIC*

TRADE MARK

INDUSTRIAL LENSES

A COMPLETE LINE OF SUPERIOR QUALITY WELDING, COVER AND SAFETY LENSES

The name is new but these lenses have been known for more than a quarter of a century under other labels as representing the highest quality of protection and eye comfort available anywhere.

You can save money now by ordering them direct from us under the name PENOPTIC.* You just cannot buy better lenses at any price. Write, wire or telephone your order to

PENNSYLVANIA OPTICAL COMPANY • READING, PA.

Known for Fine Ophthalmic Products Since 1886

*PENOPTIC is the trade name of Pennsylvania Optical Company

SAFETY POSTERS

IMPORTANT

ALL miniatures shown on these pages are of NEW posters — produced for the first time this month. Excepting the Jumbo poster (below, left) all will be available during the remainder of 1951. Those displayed on the following pages in black and white are actually printed in two or more colors. We suggest you refer to this copy of the News in making monthly selections.

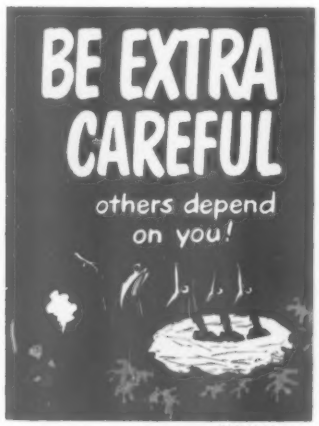
In addition to these new posters, you will find a great variety of subjects among the 744 posters illustrated in the 1951 Directory of Occupational Posters, and which will also be in stock throughout 1951. For a proven plan of selecting your posters objectively, refer to pages 4 and 5 in the Directory—a copy of which has been sent to all National Safety Council members. Additional copies are available at 50 cents each—write Membership Dept., N.S.C.

SAFETY, too

9299-C 25x38

Above new "C" poster, issued monthly, is indicative of the other two color posters —shown in black and white on the following pages and in the 1951 Poster Directory.

The Jumbo poster, issued monthly, is designed for outdoor use and is available to members on annual subscription but is not stocked. Its actual size is 9' 11" by 11' 8".



NATIONAL SAFETY COUNCIL

9286-A $8\frac{1}{2}$x$11\frac{1}{2}$

This new four color poster is illustrative of the 72 four color posters shown in the 1951 Poster Directory.

Electrotypes of poster miniatures on this page are not available, nor can payroll inserts be supplied.

Posters below are printed in two or more colors
(Available only in sizes indicated)

NATIONAL SAFETY COUNCIL

9183-A **8½x11½**

NATIONAL SAFETY COUNCIL

9269-A **8½x11½**

NATIONAL SAFETY COUNCIL

9327-A **8½x11½**

NATIONAL SAFETY COUNCIL

9231-A **8½x11½**

NATIONAL SAFETY COUNCIL

9225-B **17x23**

NATIONAL SAFETY COUNCIL

9248-B **17x23**

NATIONAL SAFETY COUNCIL

9217-A **8½x11½**

NATIONAL SAFETY COUNCIL

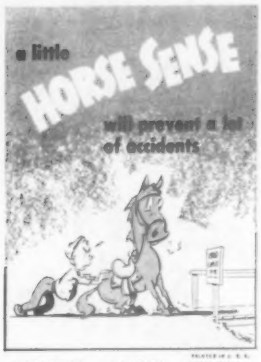
9334-A **8½x11½**

NATIONAL SAFETY COUNCIL

9253-B **17x23**

Electrotypes or payroll inserts can be furnished on all poster illustrations shown above.

Posters below are printed in two or more colors
(Available only in sizes indicated)



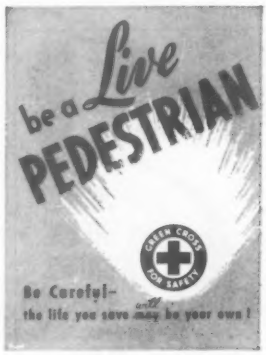
9289-A 8½x11½

9209-A 8½x11½

9276-A 8½x11½

9252-B 17x23

9254-A 8½x11½



T-9266-B 17x23

9325-B 17x23

V-9330-A 8½x11½

DEFENSIVE DRIVING TIPS
When passing a bus stopped in a loading zone at an intersection reduce speed and watch for—
the "JACK IN THE BOX" pedestrian
NATIONAL SAFETY COUNCIL

V-9329-A 8½x11½

Electrotypes or payroll inserts can be furnished on all poster illustrations shown above.

"I want to see Americans save . . ."

JOHN L. COLLYER
President, The B. F. Goodrich Company

"I want to see Americans save for their own personal security, and I want to see them, as stockholders in our government, urge economy in all phases of our national life in order to provide national security against aggression."

By their rapidly mounting participation in the Payroll Savings Plan, Americans *are* saving for their personal security, fighting the menace of inflation and making a major contribution to America's defense against aggression. In Mr. Collyer's own company 80% of the 38,000 employees throughout the company have already enrolled in the Plan, with two large divisions still to report.

As Chairman of the Ohio Payroll Savings Advisory Committee, Mr. Collyer knows what is being accomplished by leaders of industry, top management and labor in their joint effort to step up the Payroll Savings Plan. A few recent figures should be interesting to those not so familiar with the national picture:

• In the steel industry campaign, Carnegie-Illinois Steel Corporation (now U. S. Steel Company), recently raised its payroll participation from 18% of 100,000 employees to 77% . . . Columbia Steel Company of California went from 7.9% to 85.2% . . . American Bridge Company signed 92.8% of the workers in the large Ambridge plant . . . 87% of Allegheny-Ludlum Steel Corporation's 14,000 employees are now on the Payroll Savings Plan . . . Crucible Steel Company of America, reinstating its plan, signed up 65% of its 14,500 employees.

• In the aviation industry, Hughes Aircraft Company went from 36% to 76%; Boeing Aircraft enrolled 10,000 new names before Christmas.

Some dollars and cents figures? In the last quarter of 1950, sales of $25 E Bonds—the denomination so popular with payroll savers—increased 2.5% by 245,000 bonds more—over the last quarter of 1949.

If you do not have The Plan That Protects the personal security of your employees, the national economy and our country's defense, phone, write or wire to U. S. Treasury Department, Savings Bonds Division, Washington Building, Washington, D. C. Your State Director is ready to help you install a Payroll Savings Plan or step-up your employee participation.

The U. S. Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and

NATIONAL SAFETY COUNCIL

DON'T SAY "GOGGLES"
SAY "EYEGARDS"

you can pay more...but you won't get better eye protection!

THE ORIGINAL CHAMPION
EYEGARDS
WITH 10-WAY VENTILATION
BEST THING NEXT TO YOUR EYES

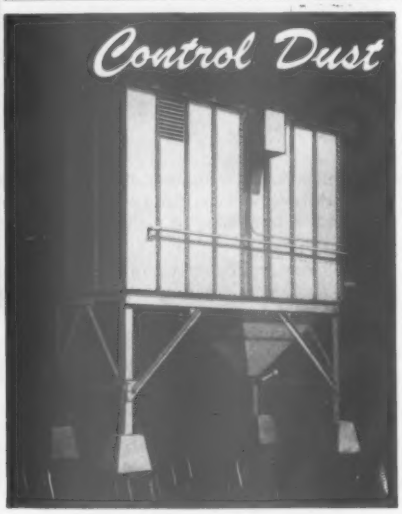
No. 31 Grinders and Chippers Goggles

No. 335 Welders Coverspec Goggles

You can save yourself time and money . . . and help your men do a better job faster by giving them super comfortable Eyegards Goggles. They rest "easy" on the wearer because the super-light plastic frames are molded to form-fit the face . . . and there's extra ventilation through three large vents at side of cup and seven additional vents around lenses. Impact-resisting, cool and fog-free. Better in every respect, they cost no more than ordinary goggles. Ask for them by name—EYEGARD! Write for catalog.

AMERICAN INDUSTRIAL SAFETY EQUIPMENT COMPANY
3501 Lakeside Avenue Cleveland 14, Ohio
DIVISION OF THE BURDETT OXYGEN COMPANY • CLEVELAND, OHIO

Control Dust ...with this
RUEMELIN
TUBULAR TYPE
FILTER



A Ruemelin Tubular Type Cloth Filter is the modern way to handle industrial dusts created in foundry cleaning rooms, metal working plants, cement mills and many other applications. The simplicity of Ruemelin Dust Filter design means low operating and maintenance costs. Definite power savings are assured by lower resistance to air flow.

NEW DUST FILTER BULLETIN AVAILABLE
Write for our new Bulletin No. 24-D just released. Learn for yourself the advantages you secure with a Ruemelin Bag Filter and at no extra cost.

RUEMELIN MFG. CO.
MANUFACTURERS AND ENGINEERS
SAND BLAST AND DUST COLLECTING EQUIPMENT
3885 NORTH PALMER STREET • MILWAUKEE 12, WISCONSIN, U. S. A.

A 5881-½

First Aid for Airlines

—From page 28

able for all operations, inventory and inspection problems will be reduced. The slightly larger capital investment of the initial installation in over-equipping a smaller unit is more than offset by the simplifying of purchasing, inventories, inspection, supervision and training of personnel.

CAA specifications are based on what is commonly referred to as the "bulk system of pharmaceuticals and surgical dressings." These usually may be obtained at any drug store, but generally are impractical for field use, except in the hands of professional medical attendants and under proper sanitary conditions, seldom available in the field or at deployed units in case of emergency.

With a fairly large variety of items needed and the kits available to a relatively small number of persons at any one time, the frequency of use of any one item is low, with the result that antiseptic and other medications may change appreciably between uses and become more injurious than helpful.

Bandages, once opened, are no longer sterile, and unused portions may become contaminated and soiled. This also is true with ointments, antiseptics and other medications. Frequently, after having been opened, they spill or leak from their containers because of atmospheric and weather conditions and/or improper closing after use. As a result the other contents of the kit are unusable in case of emergency.

The unit system, with its individual one-time use, is more desirable and economical. In the unit system each dressing is a complete, sterilized unit unto itself. Once opened, it is completely used, leaving the other dressings in the package entirely sterile for future emergencies. Antiseptics, likewise, are of one-application size, complete in an individual container, which is discarded when used. This leaves the balance of the antiseptics in the unit package in their original, hermetically sealed state.

Ointments, too, are in small, individual, single-use tubes with

closed blind ends. These precautions are taken to eliminate all possibility of leakage and damage to other materials in the kit.

The use of the unit system has been made mandatory by many regulatory bodies. Although it is not a CAA requirement, it has been accepted as an approved equivalent, providing that the transposition from bulk to unit type material is made on not less than the quantitative and qualitative equivalent.

Back of carton containing a unit application, with directions for use.

The unit system of first aid has been set up by the U. S. Bureau of Standards' Bureau of Simplified Practice so that the size of kits, sizes and shapes of packages, and even the sizes, shapes and minimum specifications of their contents are interchangeable between one manufacturer and another.

With uniformity of size and shape of packages established, once the size of the kit is chosen, the contents will always fit and are as interchangeable as a set of books on a shelf.

Replacement needs can be handled easily and stockkeeping is simplified, for all unit packages have a stock number as well as the name of the item on more than one visible surface for easy identification. Directions for use usually appear on the back of each unit package.

The unit system gives the most economical and controllable method of establishing first-aid materials for both air and ground operations, providing control of the system is centralized. Only 14 different first-aid units need be stocked for use in kits to meet CAA regulations and for all practical purposes the requirements of current regulations governing other operations in almost every state and city in the country. This means purchasing and carrying only 14 items in inventory to cover

FOOTHOLD* SAFETY TREAD

With the application of FOOTHOLD Safety Tread cleats or rolls, you easily eliminate those dangerous slippery floor areas on ramps, aisles, stairways — all over the plant. It's the inexpensive way to avoid expensive accidents! Sure-footing makes workers more efficient — more productive. Survey possible danger spots in *your* plant NOW and write BEHR-MANNING for complete information. Address Dept. SN-6.

**Trade Mark*

BEHR-MANNING · TROY, N.Y.
COATED ABRASIVES · SHARPENING STONES
PRESSURE-SENSITIVE TAPES
NORTON abrasives
FOR EXPORT—BEHR-MANNING OVERSEAS INC., NEW ROCHELLE, N.Y., U.S.A.

BE FRESH.. STAY FRESH

wear a

DUPOR No. 46

U.S.B. of M. Approved Respirator for Type A and Lead Dusts

Sample sent $2.75 *pp*

More than 46 sq. in. filtration area. Soft rubber face mask. U.S.B. of M. Approval BM-2124 for LEAD DUSTS and ALL other toxic or poisonous dusts as well as Type A (Pneumoconiosis or Silicosis producing dusts). Controlled breathing . . . patented check valves and bulb type exhalation valve guard against re-breathing stale air.

H. S. COVER, South Bend, Ind.

SAFETY EQUIPMENT FOR ALL INDUSTRIES

in Design, Materials & Construction

NEW

The IPCO NITROMETER MASK

Patent No. 2169745

WITH

Clear, Frosted Vinylite Hood

Designed for protection on acid line breaks and other jobs and operations where complete face, head and neck coverage is required. Aluminum frame with new adjustable fibre headgear. Fitted with clear, frosted vinylite hood as illustrated. Hood is non-flammable, light in weight, strong and serviceable. Electronically sealed; no thread seams to burn out or deteriorate. Wear-appeal to the workmen.

Write for Bulletin No. K-61

IPCO Safety Equipment for all Industries

INDUSTRIAL PRODUCTS COMPANY

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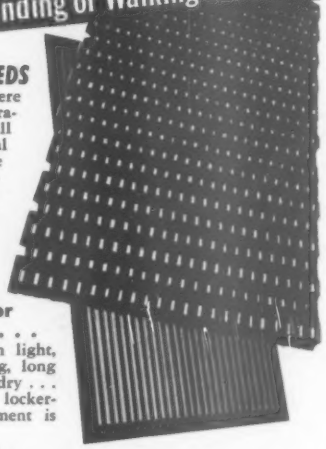
MATS SURE-GRIP SAFETY for All Standing or Walking Surfaces

TO MEET ALL INDUSTRIAL NEEDS

Frictioned-rubber link mats for areas where heavy duty service demands greatest durability with maximum SAFETY . . . Full half-inch thick with links woven on special rust-resisting steel wire, they can be made to your specifications to fit any rectangular safety-surfacing requirement. Their sure-gripping cushion reduces leg fatigue, helps increase efficiency of workers at machines and benches . . . Molded rubber scraper type mats made to standard sizes for entrances and standing workers.



Heavy Duty Ribbed Runners For Halls, Corridors, Locker Rooms . . .

Mel-Isle, high-ribbed rubber runner, in light, medium or heavy gauge is self-cleaning, long wearing and SAFE for walking, wet or dry . . . Perfect surfacing for halls, corridors, locker-rooms, aisles where sure-footed movement is essential at all times.

Write for catalog and prices today.

MELFLEX PRODUCTS COMPANY, Inc.

L. E. WARFORD, President

410 S. Broadway, Akron 8, Ohio In Canada: 206 N. May St., Fort William, Ont.

the entire complex pattern of first-aid requirements in uniform packages.

The choice of equipment or materials is of paramount importance. It involves the medical department with respect to the type of medication to be used, and concerning the ever-present legal requirements. It involves the engineering department in regard to space, weight, and loading. It requires the approval of the traffic department, since weight and space are revenue. It needs the cooperation of passenger service, for in flight or emergency landings flight attendants are involved. In most companies the safety department would be the logical coordinating agency since the training in safe practices in ground procedure also involves first-aid training as the emergency procedure in case of accident.

Once the safety and medical departments decide upon the type of equipment and the contents of the kits, all items not on that list should be eliminated from the stock room inventory.

Requisitions for the eliminated items should be cancelled and discontinued items recalled. Purchases should be centralized in the purchasing department, and only those items on the approved list should be purchased. Emergency purchases should be avoided.

After establishing a control in procedure, stock room and distribution, the medical and safety departments are concerned with a report of the injury, the extent of it, and the cause. For this purpose, it is well to consider the kind of forms to be enclosed in each kit, the type and numbers of copies to be determined by the distribution requirements of the particular organization. The information to be filled in should include *who* was injured, *what* happened, *how* did it happen, *when* did it happen, *where* did it happen, *extent* of the injury, first aid given and by *whom*.

After acquiring this information, the medical department has a complete history of the case, both for its own use and that of the insurance and claims departments. This history of a case aids the safety department or interested

supervisory personnel in determining what can be done to eliminate a repetition of the occurrence.

Kits used in planes can be more easily inspected if they are sealed when delivered aboard. Most unit type kits are constructed so that they can be sealed with a regular wire car seal. This seal, although easily broken, is easy to inspect when a pre-flight check is made. If the seal is broken, the crew chief making the inspection would replace the kit and would return the one with the broken seal to the stock room for checking. If the seal were broken, an accident report would have been made out and left in the kit for the stock clerk to forward to designated departments. This saves time for the crew chief making the inspection and maintains control on all flight kits.

It is not practical for airplanes or other utilities with field deployed personnel in various operations to have professional medical personnel on duty during all hours of operation or to have all injuries reported to the first-aid department, regardless of how minor they may be.

To eliminate excessive paper work it is well to consider as a minimum calculated risk and non-reportable, those minor cuts and bruises which can be bandaged with a one-inch adhesive bandage. For this purpose flight attendants can carry minor first-aid units in the steward kit. These usually are confined to one unit of one-inch adhesive bandages, one unit of antiseptic swabs, one unit of burn ointment and one unit of ammonia inhalants — total weight being about seven ounces, and total space approximately 3 by 2½ by 4 inches.

If very minor injuries are not considered reportable, sealed kits are not essential for ground services where inspection, regulation, or time is not quite so important. In addition, replacements in emergencies are more readily accessible from local stocks. Usually there is a periodic inspection by a responsible agent of the safety department.

Under the unit system, this is an extremely simple procedure. In the cover of each first-aid kit,

BEAT THE HEAT!

NEW

E-X-P-A-N-D-E-D COTTON* SWEATBANDS

FEATHER-LIGHT—You feel only soft cool, comfort!
*E-X-P-A-N-D-E-D COTTON—Cotton-backed gauze expanded to 8 times normal thickness!
FOUR-LAYER FOLD—Extra absorbent capacity!
NO METAL—Only pure cotton and cotton-covered elastic. No rusting, chafing, no discomfort.

So inexpensive, they can be used and thrown away... So strong, they can be rinsed and used repeatedly!

Here's the answer to perspiration... super-soft, super-absorbent E-X-P-A-N-D-E-D COTTON SWEATBANDS. Real comfort for those hot-spot jobs . . . a *better* band at a *lower* price.

Perfectly designed. No metal parts to rust or chafe, cotton-covered elastic holds band firmly but you can't even feel it. Get E-X-P-A-N-D-E-D COTTON SWEATBANDS from your regular dealer in safety or first aid supplies. *Write us for free sample today.*

GENERAL BANDAGES, INC., Chicago 5

Makers of GAUZTEX—The bandage that sticks to itself

the SAFE WAY... to CLEAN or SPONGE with flammable Liquids

JUSTRITE

JUSTRITE DISPENSING PLUNGER CANS

★ FAST
★ SAFE
★ EASY

Eliminate spilling and evaporation when cleaning or sponging with flammable liquids. Heavy terne plate and brass construction for added safety. Easily and quickly filled or cleaned. Easy downward pressure on pan dispenses required amount of liquid — can be regulated. Prevents waste. Reduces fire hazards. 1 qt., ½ gal. and 1 gal. sizes. Approved by Factory Mutuals.

Order from your Jobber.

JUSTRITE MANUFACTURING CO.

FREE CATALOG
Write Dept. NSN
2061 N. Southport Ave.
CHICAGO 14, ILL.

STOP athlete's foot in two weeks

or pay nothing!

- NEAT
- CLEAN
- ODORLESS
- PLEASANT TO USE

Improved **FOAM-X**

BUILDS UP SKIN RESISTANCE TO FUNGUS ATTACKS BY TOUGHENING SHOE-SOFTENED SKIN.

(1) Accept prepaid shipment
(2) Make a 30 day test.
(3) Pay nothing unless 100% satisfied!

NO MORE USELESS DRY MATS!
EVERY BATHER INSURED 100% UNIFORM TREATMENTS . . .

New
FOAM-X SELF-FEEDING
MIRACLE MATS
PAT. APPLD. FOR

IN CANADA:
SAFETY SUPPLY COMPANY, TORONTO

Write Today!
BE SURE TO TELL HOW MANY USE TEST SHOWER

332-A W. Alamar Ave.

FOAM-X COMPANY
SANTA BARBARA, CALIFORNIA

which opens at a 90-degree angle and forms a shelf, a diagram can be placed showing exactly the space and location allocated to each unit. The person making the inspection can either replace the missing units or requisition from stock, in accordance with the procedure set up by the individual organization.

One of the advantages of the unit system of first aid is that it is designed so as to enable even a person with no training whatsoever to render assistance in an emergency.

Each dressing and antiseptic is designed for a simple one-time application. The unit carton containing this item has complete directions and is frequently illustrated. Kits have additional instruction sheets pasted in the cover with illustrations and instructions reduced to their simplest form.

Upon installation of the unit system, it is advisable for someone to explain the system, demonstrate the items, and explain their use to those department heads and personnel responsible for their use and maintenance.

Although this simplified practice makes it possible for one to render first aid without previous instruction, first-aid training is desirable. Under present world conditions, first-aid training is especially important as part of the program of Civilian Defense.

This training can be accomplished in many ways, depending on the size of the organization. Every American Red Cross Chapter conducts first-aid courses free of charge and upon request. Membership in the Red Cross is not necessary. Some state laws demand that in each group of deployed workmen of five to ten, at least one has a current American Red Cross or U. S. Bureau of Mines first-aid card signifying that he has completed a first-aid course within the last three years and is qualified to practice first aid.

The amount and kind of training depends largely on the organization's needs. Some airlines have two or three men of supervisory ability with American Red Cross instructors' cards. They give instruction at various stations to those employees requiring the training.

There should be one person in each group of five or less with American Red Cross first-aid training, two in groups of ten, etc., unless the number is sufficiently large to justify the expenditure for a first-aid room with a nurse or doctor on duty at all times. This training can be acquired in regular American Red Cross classes. The standard course requires 18 hours, advanced training an additional 12 hours, and instructor's training another 15 hours.

There is no airline, regardless of size, which cannot benefit from the system outlined here. It can aid in the saving of materials used, by the reduction of disability caused by infection, by improving employee and public relations, by making employees safety conscious, and by savings in compensation and liability insurance premiums.

Report Shows Value of Lighting to Nation

A new report, prepared as a public service by The National Information Committee on Lighting, summarizing the vital present-day services of illumination in American industrial production, in public safety, in research and education, and in government, has recently been published. The 24-page report titled, *Lighting and the Nation's Welfare*, is broken down into five sections:

Production Lighting: Production increases by as much as 30 per cent have been achieved by proper light. Illumination also reduces eye strain and fatigue as shown by a decrease of 30 per cent in one plant for headache tablets following installation of proper lighting. The importance of proper light in quality control is evident in typical reports showing a decrease in production errors up to 50 per cent. Lighting also assures the safety of production workers both as regards machine operation and movements from one location to another.

Office Lighting: In this instance, lighting has increased worker efficiency by as much as 37 per cent. Proper lighting provides proper working conditions, contributes to greater accuracy, prevents lost time

due to eye strain and fatigue, and has a pronounced favorable effect on the workers' psychology and work attitude.

Protective Lighting: Proper use of artificial light in outdoor areas is a most important aid in preventing accidents, theft and sabotage. It reduces risk of fires and makes possible outdoor work at night. Proper lighting facilitates loading and unloading of shipments to and from factories and during transit whether by rail, truck, plane or train.

Public Safety Lighting: Proper lighting of thoroughfares over which people travel, either by car or on foot, is essential for the protection of life and property. In one year of World War II enough man-days of productive time were lost due to injuries attributable to inadequate street lighting to produce 90 destroyers, 17,500 fighter planes, or 3,500 heavy bombers.

Education Lighting: The present and future welfare of the nation depends to a great extent on the continuation of research, education and training which assures the nation's superiority in scientific and technological advance. The provision of proper lighting will assure maximum accomplishment in all fields of education and, therefore, maximum contribution to the welfare of the nation.

This 24-page report also recognizes the contributions of 28 individuals and 14 organizations to the progress of lighting.

In addition to comprehensive statistics on the effects of lighting, this report contains several comprehensive charts and graphs, illustrating many of the important points brought out by this study.

The report is available at 15 cents per copy in quantities of 100, and 10 cents per copy in lots of 500 or more. Single copies are available at 25 cents each. Requests should be addressed: National Information Committee on Lighting, 1410 Terminal Tower, Cleveland 13, Ohio.

Public Interest Awards For 1950

RECIPIENTS of the National Safety Council's Public Interest Awards for 1950 have been announced. These non-competitive awards are made annually to public information media for exceptional service in the promotion of safety.

The 1950 award went to 19 daily and five weekly newspapers, 63 radio and 7 television stations, 3 radio networks, 6 general circulation and 24 specialized magazines, 20 advertisers, 3 outdoor advertising companies and 1 film producer.

Judges were Norman Damon, vice-president, Automotive Safety Foundation; Arthur F. Harre, general station manager and program director, Radio Station WJJD, Chicago; Wesley I. Nunn, coordinator of the "Stop Accidents" campaign of The Advertising Council and advertising manager, Standard Oil Co. (Indiana); Dr. Kenneth E. Olson, dean of the Medill School of Journalism, Northwestern University; J. E. Ratner, editor, *Better Homes & Gardens;* Robert K. Richards, director of public affairs, National Association of Broadcasters; Arthur Stringer, National Association of Broad-

SMALL PLANT AWARD

GC-3 PLAQUE . . . beautiful two-tone jewelers bronze etching mounted on a genuine walnut shield. 7¾" x 7¼" — $6.50.

1933 SERIES—1¼" dia., hard glazed enamel, heavily gold plated pin and safety lock catch. $9.00 doz. (plus Fed. tax).

Write for Complete Safety Catalog

CLARENCE WILLIAMS

WILLIAMS JEWELRY & MFG. CO.

Silversmiths Bldg., 10 S. Wabash Ave.

Phone CEntral 6-5018 Chicago 3, Ill.

STASAFE

KOOLPAD

Featherweight — Comfortable

CELLULOSE SPONGE

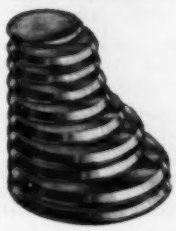
- ADJUSTABLE HEADBAND
- LONGER LASTING

Send NOW for Bulletin 521 containing description and prices!

STANDARD SAFETY EQUIPMENT COMPANY

232 W. Ontario Chicago 10

Gauge Glasses for all types Oxygen and Acetylene Welding Regulators



Made of the highest quality plate glass, properly bevelled, and available in all sizes for gauges on all types of oxygen and acetylene welding regulators.

When ordering Gauge Glasses, be sure to give the actual measurement of the inside retaining ring. If the measurement is not available, give the name and size of regulator on which it is to be used.

The illustration is slightly less than one-half actual size. It is simply meant to show a variety of sizes.

Write for name of nearest dealer!

sellstrom MANUFACTURING COMPANY

More Than 200 Eye and Face Safeguards

622-F N. Aberdeen Street Chicago 22, Ill.

SAFE-LINE
WIRE ROPE CLAMP
Does Not Slip

FASTER—SAFER—
ELIMINATES SPLICING

Millions in daily use prove *Safe-Line* the right way to hold wire rope securely. It's the better way, too!

Better because *Safe-Lines* are faster than splicing and serving, or using U-bolts.

Better because *Safe-Lines* outpull the strongest rope, hold a tight thimble, minimize rope or sling breakage.

Better because *Safe-Lines* are easy to use and re-adjust, without special tools or skilled labor.

Better, too, because *Safe-Lines* enclose sharp wire ends, preventing personal injury and mental hazards.

Try this better way that saves you time and money.

Approved BY UNDERWRITERS' LABORATORIES AND CIVIL AERONAUTICS ADMINISTRATION

FORGED AND MASTER COINED TO FIT ROPE
SIZES 1/16" TO 3/4"

Safe-Line double spiral splines fit each wire and strand, providing a powerful *grip, without cutting action to the rope. Replacement guarantee on clamp against breakage and fracture.*

WRITE FOR DESCRIPTIVE PRICE-LIST FOLDER

NATIONAL SAFE-LINE CLAMP CORP.
11252 NINE MILE ROAD
VAN DYKE, MICHIGAN

casters; Miss Judith Waller, director of public affairs and education, central division, National Broadcasting Co., and Basil L. Walters, executive editor, Knight Newspapers, Inc.

Award winners were:

General Magazines—*Better Homes & Gardens, Coronet, Look, Mechanix Illustrated, This Week, and Today's Health.*

Specialized Magazines — *Automotive News, Brake Service, British Columbia Lumberman* (Canada), *Bus and Truck Transport* (Canada), *Chemical and Engineering News, Constructor, Contractors and Engineers Monthly, Excavating Engineer, Explosives Engineer, Factory Management & Maintenance, Fifth Wheel, Michigan Farmer, Mill & Factory, N.A.D.A. Magazine, National Provisioner, Petroleum Transporter, Plant Engineering, Prairie Farmer, Railway Age, Successful Farming, Trucking News, Truck Owner's Digest, Wood,* and *Wood Working Digest.*

Daily Newspapers—Akron (O.) *Beacon-Journal,* Albany (N. Y.) *Times-Union,* Allentown (Pa.) *Call & Chronicle,* Atlanta (Ga.) *Journal, Battalion* (Texas A. & M. College), Canton (O.) *Repository,* Cleveland (O.) *Press,* Denver (Colo.) *Post,* Hamilton (O.) *Journal-News,* Los Angeles (Calif.) *Times,* Memphis (Tenn.) *Commercial Appeal,* Moose Jaw (Sask.) *Times-Herald,* New Bedford (Mass.) *Standard-Times,* New Rochelle (N. Y.) *Standard-Star,* Oakland (Calif.) *Tribune,* Pittsburgh (Pa.) *Press,* Pittsburgh (Pa.) *Sun-Telegraph,* Seattle (Wash.) *Times,* and Winona (Minn.) *Republican-Herald.*

Weekly Newspapers — *Cranston* (R. I.) *Herald,* Deep River (Conn.) *New Era,* Lenoir City (Tenn.) *News, Oregon Teamster,* Portland (Ore.) and Starkville (Miss.) *News.*

Advertisers — Anderson Buick Co., Seattle, Wash.; Atlantic Refining Co.; Thomas F. Boles Insurance Agency, Liberal, Kans.; Chevrolet Div., General Motors; DeSoto-Plymouth Dealers of America; Electric Auto-Lite Co.; Elkes Pontiac Co., Tampa, Fla.; Esso Standard Oil Co.; Firestone Tire & Rubber Co.; Ford Dealers of America; General Mills.; General Petroleum Corp.; Lever Brothers; Maxwell House Div., General Foods; Mutual Benefit Health & Accident Association of Omaha; Phillips Petroleum Co.; Pure Oil Co.; San Francisco *Examiner*; Standard Oil Co. (Indiana); and Studebaker Corp.

Outdoor Advertising Companies—Foster & Kleiser Co., San Francisco, Calif.; General Outdoor Advertising Co. (Philadelphia Branch); Sunset Outdoor Advertising Co., Seattle, Wash.

Film Producers—United Film Service, Kansas City, Mo.

Radio Networks—Don Lee Broadcasting System, Mutual Broadcasting System, and National Broadcasting Co.

Television Stations—KPIX, San Francisco, Calif.; WAAM-TV, Baltimore, Md.; WFIL-TV, Philadelphia, Pa.; WJZ-TV, New York, N. Y.; WMAR-TV, Baltimore, Md.; WNBW, Washington, D. C.; and, WWJ-TV, Detroit, Mich.

Radio Stations—CHUM, Toronto, Ont.; CJBC, Toronto, Ont.; CKOC, Hamilton, Ont.; KCMO, Kansas City, Mo.; KCVN, Stockton, Calif.; KELO, Sioux Falls, S.D.; KFEL, Denver, Colo.; KFJI, Klamath Falls, Ore.; KLRA, Little Rock, Ark.; KLZ, Denver, Colo.; KOIL, Omaha, Nebr.; KOIN, Portland, Ore.; KOMO, Seattle, Wash.; KRKD, Los Angeles, Calif.; KRNT, Des Moines, Ia.; KTFI, Twin Falls, Ida.; KVI, Seattle, Wash.; KWG, Stockton, Calif.; KWHK, Hutchinson, Kans.; KXLR, North Little Rock, Ark.; WABJ, Adrian, Mich.; WAND, Canton, Ohio; WBCK, Battle Creek, Mich.; WBET, Brockton, Mass.; WCAE, Pittsburgh, Pa.; WCCC, Hartford, Conn.; WCCO, Minneapolis, Minn.; WCSS, Amsterdam, N. Y.; WDEL, Wilmington, Del.; WDLB, Marshfield, Wis.; WDSR, Lake City, Fla.; WDZ, Decatur, Ill.; WFBC, Greenville, S. C.; WFIL, Philadelphia, Pa.; WFLO, Farmville, Va.; WGAR, Cleveland, Ohio; WGH, Norfolk, Va.; WGKV, Charleston, W. Va.; WGY, Schenectady, N. Y.; WHFB, St. Joseph, Mich.; WHIM, Providence, R. I.; WHOM, New York, N. Y.; WINN, Louisville, Ky.; WISC, Madison, Wis.; WISN, Milwaukee, Wis.; WJDX, Jackson, Miss.; WJLB, Detroit, Mich.; WJR, Detroit, Mich.; WMAZ, Macon, Ga.; WMOH, Hamilton, Ohio; WNAR, Norristown, Pa.; WNAX, Yankton, S. D.; WOPI, Bristol, Tenn.-Va.; WOWO, Fort Wayne, Ind.; WPRO, Providence, R. I.; WRVA, Richmond, Va.; WSB, Atlanta, Ga.; WTAR, Norfolk, Va.; WTIC, Hartford, Conn.; WUOT-FM, Knoxville, Tenn.; WWDC, Washington, D. C.; WWJ, Detroit, Mich.; and WWNR, Beckley, W. Va.

Mine Safety Progress Cuts Insurance Rates

Insurance rates for bituminous coal mines in the Commonwealth of Pennsylvania will be reduced for 1951, according to an announcement by the State Compensation Bureau. Due to an effective safety program, the reduction is possible in spite of the fact that for the last two years workmen's compensation benefits have been increased from $20 to $25 a week.

For three consecutive years the bituminous coal industry has established new records for safe mining and Pennsylvania operators have made important contributions to these newer standards. Both increased mechanization and a constant campaign of safety education have contributed to the improvement.

NEW SAFETY EQUIPMENT FOR INDUSTRY

Manufacturers are invited to send in announcements of new products, or improved special features. Only items which can be considered as "news" to our readers will be published.

Magnet Chain

The S. G. Taylor Chain Co., Box 509, Hammond, Ind., announces the purchase of rights for the exclusive manufacture of the new Downtown Type frictionless magnet chain. The purchase was made from the Downtown Co., Cleveland, Ohio.

The unique design and a special locating plate in the ring keeps the three suspension legs at 120° centers. Friction, twisting and gouging, causes of excessive wear, are avoided. Level lifts, and even distribution of load weight is assured.

The entire chain assembly is made from heat-treated TM alloy steel. It does not require annealing and it is extremely resistant to shock and sub-zero weather. A 1-¼ inch diameter 3-leg alloy steel chain assembly on a 65 inch magnet will lift up to 110,000 lbs.

Drum Cleaning Machine

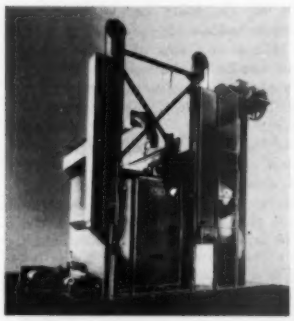
Two Rotoblast drum cleaning machines, Models ES-400 and ES-382, which simplify and speed-up the removal of dirt, rust, paint and other foreign materials from 30 and 55 gallon returnable steel drums and lids before reuse, have been announced by Pangborn Corp., Hagerstown, Md.

Metal abrasive, hurled against both interior and exterior surfaces of the drum by centrifugal force, scours the metal in seconds, leaving no chemicals or alkalies to wash off, and providing a clean bonding surface for repainting. Drums are automatically handled during the cleaning operation; only one man is required to load and unload the barrels.

Model ES-400 is designed to clean 1000 to 1100 drums and drum heads a day, or 125 to 140 per hour. Model ES-382 will clean 320 to 560 drums and covers per day, or 40 to 70 per hour. Both machines clean on the same principle. Metallic abrasive is thrown against the surfaces by the vaned wheels, which revolve at 2300 rpm. The cleaning cycle takes from 50 to 90 seconds depending upon the nature of the material to be removed, and the facility with which the operator loads and unloads the drums.

Drums are handled differently by the two machines during the cleaning operation. The larger model consists of a table divided by a partition. On either side of the partition are holders for the drums to be cleaned. While one drum is being cleaned in the cabinet, the other is exposed for unloading the cleaned barrel and loading the next drum to be cleaned.

The smaller machine consists of a cabinet, inside of which are a table and rollers. The operator places a drum on the table, and the drum cover is placed on rollers provided. He closes the door and pushes



the starting button. The cleaning proceeds automatically while the operator brings up the next drum for cleaning. Spent abrasive, mixed with the material scoured from the drum, is cleaned of dirt and broken particles by a separator and returned to the machine for reuse.

To prevent the possibility of accidents, automatic shut-off valves on both machines prevent any flow of abrasive when the partitions or doors are open. Sanitary, safe working conditions are provided for the operator.

Safety Matting

A new rubber cord type safety matting for industrial application has been developed by American Mat Corp., 1724 Adams, Toledo 4, Ohio under the name of Do-All matting. It is suitable for use in front of machinery, affording comfort and safety underfoot.

The matting comes in rolls 20 feet 5 inches long, comprised of 35 inch by 35 inch units of four 17-inch square sections, and can be easily cut apart to obtain the proper number of sections for each installation. After cutting there is a beveled edge. Four mottled colors available—Venetian red, Erin green, Delft blue and mosaic.

Industrial Lenses

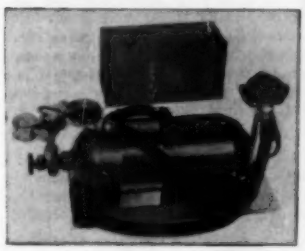
The Pennsylvania Optical Co., Reading, Pa., announces the introduction of a complete line of industrial lenses under its own trade mark. For more than 45 years the company has manufactured precision ground and polished optical products, including welding lenses made for other trade marks. Now for the first time it will label each lens with "Penoptic." The industrial line includes lenses for goggles and helmets.

The new welding lenses are packed individually in special envelopes and shipped in strong containers. Careful packaging prevents breakage and the formation of factory film on the lens surface.

Oxygen Therapy Unit

A portable model of the M-S-A oxygen therapy unit has been introduced by Mine Safety Appliances Co., Braddock, Thomas and Meade Sts., Pittsburgh 8, Pa. Recommended for oxygen therapy work in industrial and fire-fighting emergencies, this unit furnishes a flow of oxygen on inhalation, satisfying automatically any breathing demand of the wearer.

Capable of supplying oxygen needs for approximately 90 minutes, this instrument is mounted on a lightweight metal frame



with a clamp and leather handle for ease in handling. The complete unit consists of a half-mask face-piece, pressure regulating assembly, flexible breathing hose and a 40 cubic foot capacity oxygen cylinder.

The manufacturer states the unit is particularly suited for treatment in cases of cardiac emergencies, gas, smoke and carbon monoxide inhalation. Bulletin CW-6 describing the instrument may be had by writing the manufacturer direct.

Floor Maintenance

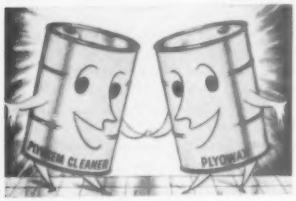
The Diversey Corp., 1820 Roscoe St., Chicago 13, has announced a combination floor maintenance treatment which features a wax polish and an improved cleaner made for use with it.

Plywax is non-slip, water-emulsion wax,

NEW SAFETY EQUIPMENT FOR INDUSTRY

Further information on these new products and equipment may be obtained by writing direct to the manufacturer. It will help in identifying the product to mention this announcement.

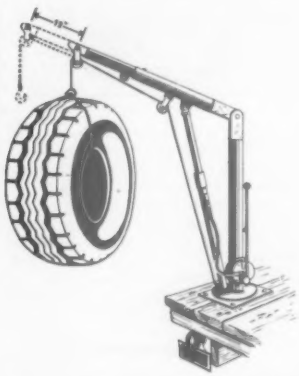
easy to apply and machine buff for a long-lasting, glossy, wear-resistant surface. Re-examination Service of Underwriters' Laboratories has certified to its non-slip characteristics.



Plyokem is a mild, neutral liquid cleaner which cleans, but leaves the waxed surface unimpaired. It is easy to use either for hand or machine scrubbing and is harmless to personnel. The two products are for all types of floors—rubber, asphalt, and other composition tiles, linoleum, sealed wood, terrazzo and painted concrete. Both products meet specifications adopted by the Rubber Manufacturers Association on waxes and cleaners for rubber tile floors.

Utility Hoist

A 12-inch boom extension which will increase load travel of the Unit Utility Hoist from 77½ to 97½ inches has been announced by Unit Manufacturing Co., 1229 Harmon Place, Minneapolis 3, Minn. The increase in load movement permits special handling operations such as setting pipe, working in manholes, settling water hydrants, reaching over obstructions and the like.



A new sheave attachment—optional at extra cost—increases load travel an additional 25 per cent. Lifting is done by a wire cable which is secured to a clevis attached to the lower end of the hydraulic cylinder and run through a sheave at the boom end.

Special widths of floor frames are also available for applications which require extra clearance. The hoist is fully hydraulic in operation, and its design permits quick transfer from truck bed to floor frame for shop use.

Ladder Stabilizer

A new ladder stabilizer that makes any kind of ladder sure footed for greater safety is now being distributed by Mine Safety Appliances Co., Braddock, Thomas & Meade Sts., Pittsburgh 8, Pa.

The Hydra-Lizer (hydraulic ladder-stabilizer) is an adjustable steel attachment for the lower end of straight or extension ladders. It provides safe footing for ladders in places where the two legs would not be on the same level, and can be used on any surface regardless of contour. It is listed by Underwriters' Laboratories.

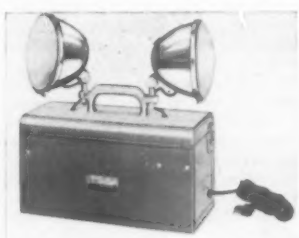
The top rails of the ladder can be against an uneven surface, like a sloping roof, without affecting stability. The device assembly consists of two steel legs which act as plungers in vertical tubes attached to the lower ends of ladder rails. Each leg has a swiveled shoe attached to its lower end by a ball and socket joint. Each shoe, a hardened steel plate with a diameter of 3-½ inches, has a rubber and cord sole ⅜-inch thick vulcanized to it.

The sole, with concentric circular grooves about 3/16-inch deep, will serve as a gripper on most hard surfaces. For use on ice, soft ground or slippery asphalt, the steel plate has four sharp teeth which, when the shoe is rotated and turned flat to the ladder rails, dig into the surface.

To operate, the ladder is placed erect and firm, the valve is opened by pressing a spring-loaded lever, and the legs adjust themselves automatically into position. When the valve lever closes automatically upon release, the legs are locked in this position.

Emergency Lighting Unit

A new, emergency lighting unit that plugs into any standard lighting outlet is



announced by the U-C Lite Manufacturing Co., 1050 W. Hubbard St., Chicago 22. Whenever the regular lighting current fails or is interrupted, this unit automatically switches on to provide flood lighting over a large area.

Some of the features of this new lighting unit are: easy installation; an 8-foot rubber-covered cord and plug fits any 110-120-volt standard lighting outlet. There are two independent, powerful floodlight heads, five inches in diameter, chromium plated. Brass, friction-type, corrosion-proof, swivel joints hold the adjustable heads in any horizontal or vertical position.

The unit operates on one 9-volt, standard dry battery that is easily replaced. The container is of 20-gauge steel, designed with full-length piano hinge and two lever-type latches for the cover—all finished in soft green Hammerloid. The approximate weight of the unit, complete with battery, is 18 pounds.

Plastic Goggles

The Methaspec Eye-Saver is the newest plastic goggle development of Watchemoket Optical Co., Inc., Providence, R. I. It is designed to give workers comfortable, correct-fitting eye protection, as well as safety.

The goggle is equipped with retrax temples which can be adjusted easily. By pushing or pulling each temple in or out, the wearer can adjust the temple length to

suit his individual requirements. Lens angle may be adjusted by holding lens with one hand and moving temple (at hinge) up or down with other hand to adjust the goggle to fit any face. For added comfort, the bridge is thick on one side, thin on the other, and may be reversed so that either side touches wearer's nose.

The goggle is made of light UVA Plexiglas only 1/10 inch thick, and weighs only 1¼ ounces. Its impact strength exceeds federal specifications for drop ball and drop needle tests for tempered glass. Ultraviolet restraint is 100 per cent in range below 3400 ang. units (the range harmful to human eye). Rolled front design, curved one plane only, allows wide range of vision.

NEW SAFETY EQUIPMENT FOR INDUSTRY

Manufacturers are invited to send in announcements of new products, or improved special features. Only items which can be considered as "news" to our readers will be published.

Safety Shoe

Record Industrial Co., Dept. N, 3301 Arch St., Philadelphia 4, has announced a new feature in their safety shoes of stitching with thread of "Dacron" polyester fiber. This new synthetic thread, the manufacturer states, has proven over ten times stronger than regular cotton stitching on numerous abrasion and wear tests and has

several times the tensile strength. In addition, it is resistant to chemicals, caustics, alkalis, bleaches, and common solvents.

Plus the above features, this new thread is resistant to foot acids and perspiration which break down shoe seams. Illustrated style with oil resistant corded sole is available in widths "C," "D," "E," and "EE". Numerous other styles are also available stitched with this new thread developed by Du Pont.

Floor Scrubber

The improved Lincoln "Cadet" floor scrubber with interchangeable waxer, polisher and rug scrubber attachments incorporates departures from its previous construction. These include: an increased capacity ¼ h.p. continuous duty type motor having larger reservoirs for complete lubrication over longer periods of operation: an improved gear reduction unit, a top grade lubricant with a new seal to prevent leakage of lubricant or entrance of foreign matter into the gear case.

The wheel carriage has been redesigned for sturdier construction. For further details about the improved machine write Lincoln, Schlueter Floor Machinery Co., Dept. "C" 1250 W. Van Buren St., Chicago 7.

Safety Signs

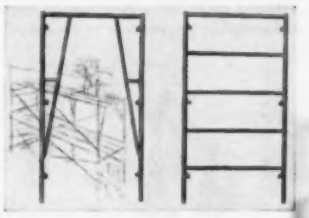
Eastern Metal of Elmira, Inc., Elmira Heights, N. Y. announces its new "A" safety standards for warning motorists approaching a work area. The durable angle iron frame opens into a wide base so that the standard does not blow over in strong winds or the backwash of passing trucks. Two red flags mounted diagonally complete the standard. The free-swinging sign in

brilliant yellow has black lettered legends on both sides. Several different legends are available and can be reflectorized for night or cloudy day display.

Both the sign and the frame, which is brilliant red, have a special flexible baked enamel resistant to weather and stone bruises. The standard folds up neatly and locks in place for convenient carrying and easy storage. Flags are also removable. Weight without flags is only 13 pounds. The unit stands 27 inches high and is 18 inches wide.

Scaffolding End Frames

Two new types of end frames, designed for light commercial builders and mason contractors, have been added to the line of tubular steel scaffolding by Bil-Jax, Inc., Archbold, Ohio. The frames are each 36 inches wide by 6 feet high, and are interchangeable.

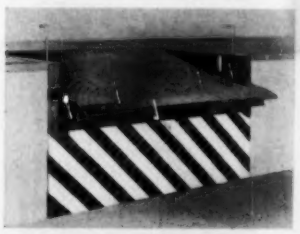


One frame is ladder-type, for use at the ends of the scaffolding installation. The other is open-type to permit passage underneath of workmen wheeling materials. All joints are electrically welded. The frames are combined into towers by attaching diagonal braces. There is no need to remove wing nuts in attaching or removing braces because of the brace lock.

Loading Ramp

Wm. Christensen Co., Inc., York, Pa. has announced a new self-contained, four-way hydraulic loading ramp, which reaches out and positions itself on the truck. It features finger tip, flexible cable type, control to any desired position. Floating action to compensate for spring deflection of truck is incorporated. Capacity 20,000 lbs.

The ramp comes in two standard sizes—6 feet wide by 6 feet long and 6 feet wide by 8 feet long. Special sizes available. The ramp is easily installed in front of, or completely recessed in existing docks. When



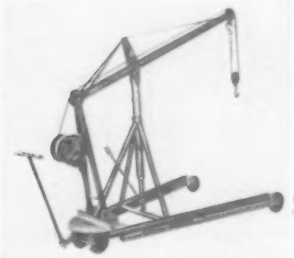
not in use it can be locked together to occupy minimum space. It is of heavy construction, has full safety skirts, and is designed to withstand abuse. The complete hydraulic unit is contained within the ramp itself.

NEW SAFETY EQUIPMENT FOR INDUSTRY

Further information on these new products and equipment may be obtained by writing direct to the manufacturer. It will help in identifying the product to mention this announcement.

Portable Shop Crane

Allied Maufacturing & Sales Co., 3101 W. Grand Ave., Chicago 22, are marketing a portable shop crane which features a hydraulically adjustable center post for wider adaptability. Equipment or materials weighing up to 5000 pounds can be hoisted and moved by one man.



The hydraulic center post provides a wide range of lifting heights to suit a number of specific lifting jobs. The hydraulic mechanism is hand operated and provides simple control. Boom height adjustment to permit short-cable jobs can be accomplished quickly. A winch to raise the load is provided. Seven turns on winch handle raises load 1 foot. The Model 8C grand sasgen crane has a lift of 9 feet 8 inches and a maximum lifting capacity of 5000 pounds. Large 8 inch roller bearing wheels for easy movement of loads are standard equipment.

Portable Safety Ladder

Jaydee Manufacturing Co., Dayton 5, Ohio, has announced a new portable step ladder for use in industrial plants, stores, stockrooms known as Porta-Step. Specifica-

tions are 21, 24, and 30 inches wide, 5 to 10 feet high to standing platform. They are made of all steel or aluminum, electrically welded with carborundum safety treads. The spring-loaded front casters make the ladder stationary with weight of foot.

Safety guard rails may be added to each side of steps at a slight additional cost. All casters are heavy duty rubber tired tvpe. Rubber soles are on bottom of front legs. The ladder may also be ordered with four spring-loaded swivel casters at slight extra cost. Upper loading platform can be dropped down against frame of ladder when not in use.

News Items

The appointment of James A. Chapin as regional sales manager covering eastern states for Medical Supply Co., Rockford, Ill., is announced by the company president, Gordon P. St. Clair.

Chapin's safety experience has been concentrated in the aviation and machine tool field. He worked for American Air Lines and Air France after serving in the Navy for three years in Intelligence and Air Transport.

* * *

The Union Wire Rope Corp. will spend 2 million dollars in expansion of its plant at Kansas City which will increase its space and payroll 25 per cent.

M. G. Ensinger, president and general manager, said part of the space will be for equipment and facilities which will increase the wire mill output by 66 per cent. Five major building projects—plus one which only recently has been completed and occupied—will add a total of 109,000 square feet. They will give Union Wire Rope more than 500,000 square feet under roof. One of the buildings, an administration and production control unit with 26,000 square feet, already is under way. The building just completed and occupied is on the north end of the plant layout. It is a structure with a 100-foot clear span and 20-foot ceiling height. It has 20,000 square feet. This structure houses a new wet wire drawing department and produces field wire for military forces. It also has wire insulating equipment and two galvanizing units, plus a lead straightening department.

In addition to the new building and the administration building, these expansions and additions will be made: A heat-treating room to be used in conjunction with present heat-treating facilities. The building will house accessories necessary for the patenting furnaces. It will have 13,000 square feet. The expansion will be at the south end of the present plant. Adjoining the heat-treating improvement will be a cleaning house with 6,000 square feet. Here, steel wire will be "pickled" to remove impurities.

The major building in size will be the new wire mill extension at the south. Containing 37,000 square feet, it will house additional wire drawing equipment. The brick structure will be in the shape of a huge block L, 1-story high. The sixth building improvement will be a new loading dock, with spaces for four truck ramps. The 7,000 square foot dock addition will be enclosed for all-weather loading and unloading.

* * *

W. G. Claus has been named purchasing agent for Mine Safety Appliances Co. of Canada, Ltd., Toronto. Formerly manager of the company's Montreal branch office, Mr. Claus will be succeeded in that post by Fred W. Curtis who has been an MSA sales engineer in Western Ontario.

Mr. Claus joined the company as a sales engineer in the Montreal office in 1937 and was appointed branch manager in 1942.

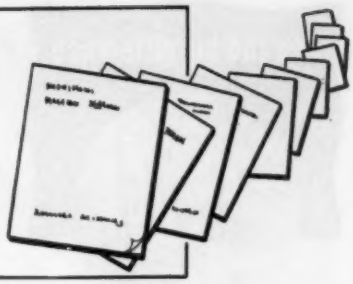
Mr. Curtis, before becoming associated with MSA in 1941, had been for 18 years in the Accident Prevention Dept. of the Canadian National Railways. He is a member of the Quebec Chapter, American Society of Safety Engineers, and the Veterans of Safety.

* * *

S. C. Lawson, general sales manager, Ampco Metal, Inc., 1745 South 38th St., Milwaukee 46, Wis., has announced the appointment of Louis C. Begg as district manager of the newly established Buffalo Sales Division. Mr. Begg was transferred from the Ampco main office in Milwaukee where he has been serving the Company as special sales engineer for Ampco Centrifugal Pumps and for all Ampco alloys and products.

TRADE PUBLICATIONS
in the Safety Field

These trade publications will help you to keep up-to-the-minute on new products and developments in industrial health and safety equipment. They are free and will be sent by manufacturers without obligation to readers of NATIONAL SAFETY NEWS who are responsible for this work. Send in the coupon below checked for the publications you desire. Please make your requests promptly.



1. **Materials Handling Equipment:** A new illustrated catalog of materials handling equipment is now available. Subjects covered include gas and electric fork lift trucks, motorized hand trucks, hand lift trucks, hand and electric hoists and dial scales. Attachments included. Yale & Towne Mfg. Co.

2. **"Trackmobile":** Brochure on gasoline powered, lightweight—6,000 lbs.—locomotive for spotting, switching or hauling railway cars. By means of hydraulic jacking, part of car's weight is transferred to trackmobile which, with added adhesive force, develops a drawbar pull of 7,350 lbs. Two sets of wheels, one rubber tired, the other of railway type, enable the machine to operate on ground or rails. Whiting Corp.

3. **Plant Security:** A new and exceptionally secure master-keyed and grand mastered lock system, engineered especially for industrial plants is described in this 6-page bulletin. A complete plant security system built around the Ace 7 pin-tumbler lock. Chicago Lock Co.

4. **Plastic, Rubber Processed Gloves:** Canvas and cotton knit gloves processed with natural rubber, neoprene or plastic are the subject of this bulletin. Work gloves for men and women that are snag proof, heat and corrosion resistant. American Rubberizing Co.

5. **"Solving Roof Problems":** Illustrated by photographs, drawings and diagrams, this 32-page brochure thoroughly explores such subjects as the various types of roofs, their construction, deterioration factors and the diagnosis and treatment of roof troubles. Tremco Mfg. Co.

6. **Punch Press Safety Guards:** Folder describes a complete line of safetyguards for punch presses. Two different types of sweep guards and five different types of enclosure guards are included. All American Safety Equipment Co.

7. **Safety Connecting Links:** Complete data on the "Wedglok" safety connecting link are provided by the tables and diagrams in this folder. Interstate Drop Forge Co.

8. **Tubular Type Dust Filters:** Bulletin 24-D with photographs, charts and diagrams covers thoroughly the subject of tubular cloth type filters, which reclaim dust particles down to ½ micron in size and recover over 99.8% of all dust loads. Ruemelin Mfg. Co.

9. **"The Right Ladder . . .":** Leaflet is designed for the purpose of familiarizing ladder users with the right ladder for every job and to further educate them in the proper use, care and handling of ladders. American Ladder Institute.

10. **"Wet Water":** Booklet describes for laymen the thinner, more penetrating wet water and discusses its many industrial uses such as: dust control, product blending, wetting, washing, in coolants and fire fighting. Aquadyne Corp.

11. **Radiation Monitoring:** This informative booklet discusses the facts of radiation and radioactivity in simple, understandable terms. The training of civilian defense personnel is discussed and the necessary equipment for on-the-spot monitoring—radioactivity demonstrators, dosage meters, food and water monitors and others are described. Tracerlab.

12. **Floor Care:** A plastic instant-use patcher which can be applied immediately after a thorough wire brushing of the broken concrete or worn portion of the floor to be patched is the subject of this illustrated folder. Dura-Tred Co.

13. **Safety Caps:** Catalog with prices of a complete line of safety caps for women is available. Caps, snoods, turbans, visor caps, smocks and plastic aprons included. Hollywood Turban Products Co.

14. **Materials Handling:** Catalog describes "Lift-Jack System" that lets one man do the work of two. Items described are lift jacks, drum and barrel trucks, platform trucks, hand trucks and precision-built wheels. The Colson Corp.

15. **For Foremen:** A 98-page booklet, "Foremanship and Accident Prevention in Industry" is now available. American Mutual Liability Insurance Co.

16. **Scaffolding:** Circular describes lightweight aluminum alloy scaffolding available in patented one-piece sections with built-in stairway. Sections fold for storage. Single swivel casters with wheel lock. No wrenches, wing nuts or loose parts involved. Up-Right Scaffolds.

17. **Lighting:** Booklet MF, on "Magna-Flow" lighting gives complete data on 18 different types of units for 96", 72" and 48" "slimline" fluorescent lamps. Special features such as, "Spring-box" lampholders described. Benjamin Electric Mfg. Co.

18. **Heavy Duty Cleaning Equipment:** Detailed information on heavy duty cleaners, hand cleaners, furnace cleaner and tools and accessories is available. General Electric Co.

NATIONAL SAFETY NEWS JUNE, 1951

425 N. MICHIGAN AVE.
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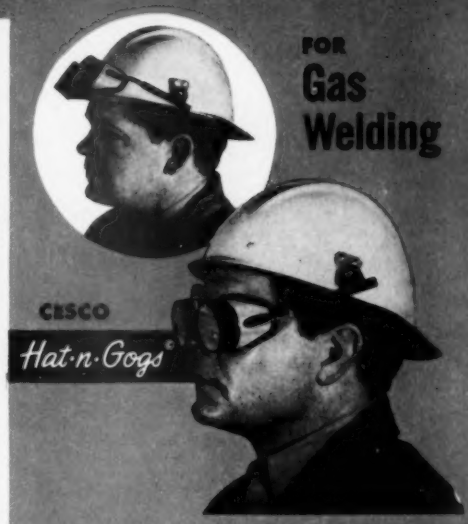

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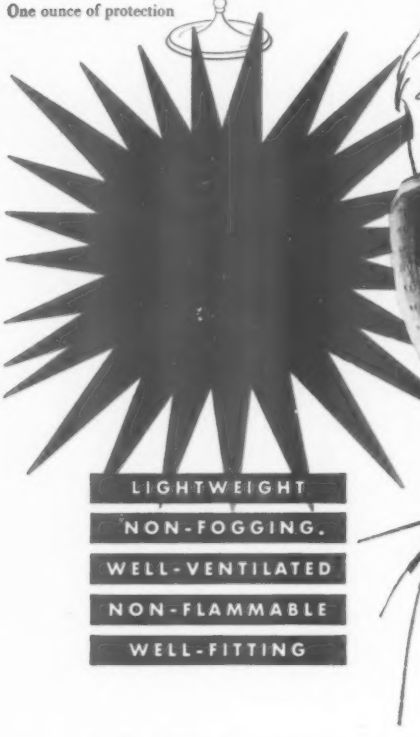

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